

**1138444 B.C. A Subsidiary of Mercer Valve Co., Inc. (MCD)**Nameplate Abbreviation: Mercer Valve  
Co., Inc. Calgary Division

MD Rocky View, AB T1X 0K3Canada

**This Company Manufactures or Assembles:**

Design Name: 1400 Series NBCert # 38113

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/11/2030

**Design Type**

[Safety Relief Valve] 1400 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.291 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5-1 NPS	0.02 in <sup>2</sup>		0.06 in	150-10000 psi	Air	UV

Design Name: 81-100000 Series NBCert # 38001

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/11/2030

**Design Type**

[Safety Relief Valve] 81-100000 Series  
Capacity Tests: Sec. UV at unknown lab on November 21, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.100 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 - 2 NPS	0.212 in <sup>2</sup>	0.52 in	0.19 in	15-3500 psi	Air	UV

Design Name: 81-200000 Series NBCert # 38023

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/11/2030

**Design Type**

[Safety Relief Valve] 81-200000 Series  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on February 25, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.210 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.472 in <sup>2</sup>	0.775 in	0.3 in	15-2500 psi	Air	UV

Design Name: 8500 Series NBCert # 38102

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler UV 09/11/2030

**Design Type**

[Safety Relief Valve] 8500 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on February 12, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.370 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-2 NPS	1, 2 NPS	0.212 in <sup>2</sup>	0.52 in	0.24 in	15-2400 psi	Air	UV

Design Name: 9100 NBCert # 38056

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler UV 09/11/2030

**Design Type**

[Safety Relief Valve] 9100  
Capacity Tests: Sec. UV at National Board Testing Lab on July 19, 1991  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.818 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	[C] 0.281 in	0.11 in	15-10000 psi	Air	UV
0.5-1.5 NPS	1 - 2 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.17 in	15-7500 psi	Air	UV
0.75-2 NPS	1 - 3 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.19 in	15-6000 psi	Air	UV
1-2 NPS	1-1/2 - 3 NPS	0.337 in <sup>2</sup>	[F] 0.655 in	0.27 in	15-5000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.3 in	15-4000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.865 in <sup>2</sup>	[H] 1.05 in	0.41 in	15-2750 psi	Air	UV

2-3 NPS	2-1/2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.58 in	15-2700 psi	Air	UV
2-3 NPS	3-4 NPS	1.622 in <sup>2</sup>	[JO] 1.437 in	0.6 in	15-1800 psi	Air	UV
3-4 NPS	3,4,6 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.65 in	15-2200 psi	Air	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.8 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.08 in <sup>2</sup>	[M] 2.28 in	0.9 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	0.985 in	15-740 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.2 in	15-525 psi	Air	UV

Design Name:	9100L (Liquids)	NBCert #	38067
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/11/2030

#### Design Type

[Relief Valve] 9100L (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on June 9, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.707 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	[C] 0.281 in	0.11 in	15-10000 psi	Water	UV
0.5-1 NPS	1 - 2 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.17 in	15-6500 psi	Water	UV
0.75-2 NPS	1 - 2 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.25 in	15-3500 psi	Water	UV
1-2 NPS	1.5 - 2.5 NPS	0.337 in <sup>2</sup>	[F] 0.655 in	0.32 in	15-5000 psi	Water	UV
1.5-3 NPS	2 - 3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.35 in	15-4000 psi	Water	UV
1.5-3 NPS	2 - 3 NPS	0.865 in <sup>2</sup>	[H] 1.05 in	0.52 in	15-2750 psi	Water	UV
2-4 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.62 in	15-2700 psi	Water	UV
2-3 NPS	3-4 NPS	1.622 in <sup>2</sup>	[JO] 1.437 in	0.64 in	15-1800 psi	Water	UV
3-4 NPS	3, 4 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.76 in	15-2220 psi	Water	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.82 in	15-2000 psi	Water	UV
4-4 NPS	6 NPS	4.08 in <sup>2</sup>	[M] 2.28 in	0.95 in	15-2000 psi	Water	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	0.985 in	15-740 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.2 in	15-525 psi	Water	UV

**AABK dba Total Valve Systems (LTV)**

Nameplate Abbreviation: Total Valve Systems

Rock Springs, WY 82901 United States

**This Company Manufactures or Assembles:**

Design Name: 2600 & 2600S	NBCert # 57057
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/07/2030

#### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/07/2030

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV

4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids) NBCert # 57068

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/18/2030

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V

12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V
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Design Name: 2700, 2700S, 3700, 3700S		NBCert # 57237
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/07/2030
Design Type		
<div>[Safety Relief Valve] 2700, 2700S, 3700, 3700S</div> <div>Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994</div> <div>Method of Establishing Relieving Capacity: Flow Capacity, K</div> <div>Certified Value: 0.878 Unitless</div> <div>Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam</div> <div>Set Pressure Definition: Pop</div> <div>Blowdown Characteristics: Fixed</div> <div>Flow Area Configuration: Nozzle/Full Lift</div> <div>Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids)			NBCert # 57248	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		06/18/2030

**Design Type**

[Relief Valve] 2700L, 3700L (Liquids)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.676 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800

NBCert # 57024

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

08/07/2030

**Design Type**

[Pilot Operated Pressure Relief Valve] 3800

Capacity Tests: Sec. UV at unknown lab on May 20, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.859 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (3): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV



2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 4200 / 4400

NBCert # 57282

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	08/07/2030

#### Design Type

[Safety Valve] 4200 / 4400  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.872 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V

6 NPS	8 NPS	11.389 in²	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V
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Aalberts Integrated Piping Systems Americas, Inc. (CNB)

Nameplate Abbreviation: Aalberts IPSA, Inc.

Pageland, SC 29728United States

This Company Manufactures or Assembles:

Design Name: 10-102/104 (RVW10)		NBCert # 11002	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		HV	07/24/2029
Design Type			
[Safety Relief Valve] 10-102/104 (RVW10) Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on February 28, 1970 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:14.850 PPH/PSIA Media - Test: Steam; Certified: Saturated Water Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.442 in²	0.75 in	0.3 in	20-60 psi	Steam	HV

Design Name: 10-301/303 (RVW30)		NBCert # 11024	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		HV	05/07/2030
Design Type			
[Safety Relief Valve] 10-301/303 (RVW30) Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on October 12, 1962 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:11.500 PPH/PSIA Media - Test: Steam; Certified: Saturated Water Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.442 in²	0.75 in	0.19 in	20-60 psi	Steam	HV

Design Name: 10-321 (RVW32)		NBCert # 11035	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		HV	03/24/2027

**Design Type**

[Safety Relief Valve] 10-321 (RVW32)  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on May 8, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 8.900 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-0.75 NPS	.75 NPS	0.442 in <sup>2</sup>	0.75 in	0.14 in	20-60 psi	Steam	HV

Design Name: 10-322 (RVS32) NBCert # 11046

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/13/2028

**Design Type**

[Safety Relief Valve] 10-322 (RVS32)  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on May 8, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 9.000 PPH/PSIA  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.442 in <sup>2</sup>	0.75 in	0.14 in	20-60 psi	Steam	UV

Design Name: 10-417/418 (RVW40) NBCert # 11451

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	09/27/2026

**Design Type**

[Safety Relief Valve] 10-417/418 (RVW40)  
Capacity Tests: Sec. HV at National Board Testing Lab on March 2, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.000 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.306 in <sup>2</sup>	0.624 in	0.156 in	20-80 psi	Steam	HV

Design Name: 10-512 (RVS52) NBCert # 11080

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/04/2029

**Design Type**

[Safety Relief Valve] 10-512 (RVS52)  
 Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on March 23, 1981  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 4.867 PPH/PSIA  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.5 NPS	0.15 in <sup>2</sup>	0.437 in	0.1 in	15-60 psi	Steam	UV

Design Name: 10-610 (RVW61) NBCert # 11103

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	08/13/2030

**Design Type**

[Safety Relief Valve] 10-610 (RVW61)  
 Capacity Tests: Sec. HV at National Board Testing Lab (Picaway) on June 3, 1987  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.739 Unitless  
 Media - Test: Steam; Certified: Saturated Water  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.535 in <sup>2</sup>	0.825 in	0.336 in	15-160 psi	Steam	HV
1 NPS	1.25 NPS	0.866 in <sup>2</sup>	1.05 in	0.429 in	15-160 psi	Steam	HV
1.25 NPS	1.5 NPS	1.498 in <sup>2</sup>	1.381 in	0.554 in	15-160 psi	Steam	HV
1.5 NPS	2 NPS	2.038 in <sup>2</sup>	1.611 in	0.659 in	15-160 psi	Steam	HV
2 NPS	2.5 NPS	3.359 in <sup>2</sup>	2.068 in	0.89 in	15-160 psi	Steam	HV

Design Name: 119 Series NBCert # 11361

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	09/29/2030

**Design Type**

[Safety Valve] 119 Series  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on March 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Air	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	UV

1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	NV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	V
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Air	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	V
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Air	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	V
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Air	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	V

Design Name: 12-205 (RVS12) NBCert # 11114

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	11/16/2026

#### Design Type

[Safety Valve] 12-205 (RVS12)  
Capacity Tests: Sec. HV at unknown lab on April 26, 1964  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:2500.0 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	2.761 in <sup>2</sup>	1.875 in	0.64 in	15-15 psi	Steam	HV

Design Name: 12-208 (RVS12) NBCert # 11136

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	11/16/2026

**Design Type**

[Safety Valve] 12-208 (RVS12)  
Capacity Tests: Sec. HV at unknown lab on September 5, 1979  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:4100.0 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	3 NPS	6.56 in <sup>2</sup>	2.89 in	0.42 in	15-15 psi	Steam	HV

Design Name: 13-101 (RVS13T) NBCert # 11147

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	11/17/2026

**Design Type**

[Safety Valve] 13-101 (RVS13T)  
Capacity Tests: Sec. HV at unknown lab on August 27, 1961  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:410.00 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.442 in <sup>2</sup>	0.75 in	0.21 in	15-15 psi	Steam	HV

Design Name: 13-202 (RVS13) NBCert # 11169

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	03/24/2027

**Design Type**

[Safety Valve] 13-202 (RVS13)  
Capacity Tests: Sec. HV at unknown lab on June 19, 1962  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:643.00 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.442 in <sup>2</sup>	0.75 in	0.37 in	15-15 psi	Steam	HV

Design Name: 13-211 (RVS13) NBCert # 11170

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	06/21/2026

**Design Type**

[Safety Valve] 13-211 (RVS13)  
Capacity Tests: Sec. HV at unknown lab on June 13, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:475.00 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	0.75 NPS	0.442 in <sup>2</sup>	0.75 in	0.244 in	15-0 psi	Steam	HV

Design Name: 13-511/512 (RVS13L) NBCert # 11350

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

04/16/2029

**Design Type**

[Safety Valve] 13-511/512 (RVS13L)  
Capacity Tests: Sec. HV at unknown lab on October 2, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:407.00 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.272 in <sup>2</sup>	0.588 in	0.147 in	15-15 psi	Steam	HV

Design Name: 14-205 (RVS14) NBCert # 11215

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

11/16/2026

**Design Type**

[Safety Valve] 14-205 (RVS14)  
Capacity Tests: Sec. HV at unknown lab on January 29, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:3150.0 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	2.238 in <sup>2</sup>	1.688 in	0.83 in	15-15 psi	Steam	HV

Design Name: 14-206 (RVS14) NBCert # 11226

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

04/16/2029

**Design Type**

[Safety Valve] 14-206 (RVS14)  
Capacity Tests: Sec. HV at unknown lab on January 2, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:4676.0 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5 NPS	2.5 NPS	3.339 in <sup>2</sup>	2.062 in	0.52 in	15-15 psi	Steam	HV

Design Name: 14-207 (RVS14) NBCert # 11237

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

02/09/2026

**Design Type**

[Safety Valve] 14-207 (RVS14)  
Capacity Tests: Sec. HV at unknown lab on January 29, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:6843.0 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3-3 NPS	3 NPS	5.155 in <sup>2</sup>	2.562 in	0.64 in	15-15 psi	Steam	HV

Design Name: 15-112 (RVA15) NBCert # 11248

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

07/31/2030

**Design Type**

[Safety Relief Valve] 15-112 (RVA15)  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on April 17, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.738 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS			0.265 in		15-250 psi	Air	UV

Design Name: 15-115/117 (RVA15) NBCert # 11259

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

03/16/2028



**Design Type**

[Safety Relief Valve] 15-115/117 (RVA15)  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on September 6, 1979  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.849 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.5 NPS		0.145 in <sup>2</sup>	0.43 in		15-250 psi	Air	UV

Design Name:	15-118 (RVA15)	NBCert #	11372
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	08/28/2025
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**Design Type**

[Safety Relief Valve] 15-118 (RVA15)  
Capacity Tests: Sec. UV at National Board Testing Lab on November 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.280 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.219 in <sup>2</sup>	0.528 in	0.132 in	15-250 psi	Air	UV

Design Name:	15-119 (RVA15)	NBCert #	11383
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	10/23/2025
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**Design Type**

[Safety Relief Valve] 15-119 (RVA15)  
Capacity Tests: Sec. UV at National Board Testing Lab on November 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 6.780 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.458 in <sup>2</sup>	0.764 in	0.191 in	15-250 psi	Air	UV

Design Name:	17-402 (RVW17)	NBCert #	11440
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	HV	03/06/2027
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**Design Type**

[Safety Relief Valve] 17-402 (RVW17)  
Capacity Tests: Sec. HV at National Board Testing Lab on March 2, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.200 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	0.75 NPS	0.173 in <sup>2</sup>	0.47 in	0.117 in	75-150 psi	Steam	HV

Design Name: 19 Series NBCert # 11282

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	11/13/2029

**Design Type**

[Safety Valve] 19 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 27, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.826 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Air	UV
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Steam	UV, V

Design Name: 29-303, 29-402, 29-501 NBCert # 11305

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	07/31/2030

**Design Type**

[Safety Valve] 29-303, 29-402, 29-501  
Capacity Tests: Sec. UV, V at National Board Testing Lab (Picaway) on February 14, 1983  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.230 PPH/PSIA; (alternate medium): 2.570 SCFM/PSIA  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.25 NPS	1.25 NPS	0.203 in <sup>2</sup>	0.737 in	0.08 in	30-210 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.203 in <sup>2</sup>	0.737 in	0.08 in	30-210 psi	Steam	V
0.75-1.25 NPS	1.25 NPS	0.203 in <sup>2</sup>	0.737 in	0.08 in	30-210 psi	Steam	UV

Design Name: 500 Series NBCert # 11462

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/05/2027

**Design Type**

[Safety Valve] 500 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on June 12, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.861 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Air	UV
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Steam	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Steam	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Air	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Steam	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Air	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Steam	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Air	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Steam	UV

Design Name: 500 Series (Liquids) NBCert # 11473

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/31/2027

## Design Type

[Safety Relief Valve] 500 Series (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on February 25, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.689 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-1000 psi	Water	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-1000 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-1000 psi	Water	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-1000 psi	Water	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-1000 psi	Water	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-1000 psi	Water	UV

## Admiral Valve Repair and Supply Company, Inc. (ASR)

Nameplate Abbreviation: ADMIRAL  
VALVE

North Chicago, IL 60064United States

### This Company Manufactures or Assembles:

Design Name: Kunkle 264, 265, 266 & 267 NBCert # 36267

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/16/2027

## Design Type

[Safety Relief Valve] Kunkle 264, 265, 266 & 267  
Capacity Tests: Sec. UV at unknown lab on July 20, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.766 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-2000 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-3300 psi	Air	UV

Design Name: Kunkle 300,600 NBCert # 36076

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	05/06/2027

## Design Type

[Safety Valve] Kunkle 300,600  
 Capacity Tests: Sec. UV, V at unknown lab on February 10, 1961  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Air	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	V
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Air	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	V
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Air	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	V
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	UV

Design Name:	Kunkle 337	NBCert #	36278
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/22/2027

#### Design Type

[Safety Relief Valve] Kunkle 337  
Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name:	Kunkle 6000, 6252 Series	NBCert #	36324
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 02/24/2027

#### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV

1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name:	Kunkle 910 to 919	NBCert #	36100
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	06/10/2027
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#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV

0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name:	Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)	NBCert #	36111
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/22/2027

#### Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)

Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.710 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

Design Name:	Kunkle 920, 921, 927, Agco A (High Temp. water)	NBCert #	36098
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 02/24/2027

#### Design Type

[Safety Valve] Kunkle 920, 921, 927, Agco A (High Temp. water)

Capacity Tests: Sec. V at unknown lab on May 19, 1969

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless; Certification Provisions: Forced Flow Steam Generator/High Temp Hot Water (10% BD)

Media - Test: Steam; Certified: Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	V



0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	V

## ADVANCE VALVE, INC. (ADV)

Fenton, MO 63026United States

### This Company Manufactures or Assembles:

Design Name:	438 Sub Types 481, 439, Liquids	NBCert #	37202
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/11/2030

#### Design Type

[Safety Relief Valve] 438 Sub Types 481, 439, Liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 23, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.490 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-2610 psi	Water	UV

Design Name:	441/442/444	NBCert #	37044
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 05/26/2026

#### Design Type

[Safety Relief Valve] 441/442/444  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on February 17, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.699 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Air	UV
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Steam	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Air	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Steam	UV

1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Air	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Steam	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Air	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Steam	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Air	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Steam	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Air	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Steam	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Air	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Steam	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Air	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Steam	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Air	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Steam	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Air	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Steam	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Air	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Steam	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Air	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Steam	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Air	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Steam	UV

Design Name: 441/442/444 liquids NBCert # 37055

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/02/2027

### Design Type

[Relief Valve] 441/442/444 liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on September 6, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.521 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Water	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Water	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Water	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Water	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Water	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Water	UV

5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Water	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Water	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Water	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Water	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Water	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Water	UV

Design Name:	459/462	NBCert #	37112
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/08/2026

Design Type
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[Safety Relief Valve] 459/462  
Capacity Tests: Sec. UV at National Board Testing Lab on February 17, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.811 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Air	UV
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Air	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Steam	UV

Design Name:	459/462 liquids	NBCert #	37101
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/08/2026

Design Type
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[Relief Valve] 459/462 liquids  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.566 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Water	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Water	UV

0.5-1.5 NPS	1-2.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Water	UV
1-2 NPS	1.5-2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Water	UV

Design Name: 483, 484, 485 (0.512 orifice) Liquids NBCert # 37156

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/06/2030

#### Design Type

[Relief Valve] 483, 484, 485 (0.512 orifice) Liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 8, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.960 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	1.5 NPS	0.157 in <sup>2</sup>	0.512 in	0.098 in	15-232 psi	Water	UV

Design Name: 483, 484, 485 (0.984 orifice) Liquids NBCert # 37178

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/15/2030

#### Design Type

[Relief Valve] 483, 484, 485 (0.984 orifice) Liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on May 1, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.460 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.485 in <sup>2</sup>	0.984 in	0.157 in	15-232 psi	Water	UV

Design Name: 488 NBCert # 37022

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/20/2027

#### Design Type

[Safety Relief Valve] 488  
Capacity Tests: Sec. UV at National Board Testing Lab on May 31, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.721 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.256 in	20-232 psi	Air	UV
1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.256 in	20-232 psi	Steam	UV
1.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.416 in	20-232 psi	Air	UV
1.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.416 in	20-232 psi	Steam	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.512 in	20-232 psi	Air	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.512 in	20-232 psi	Steam	UV
2.5 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.674 in	20-232 psi	Air	UV
2.5 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.674 in	20-232 psi	Steam	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.832 in	20-232 psi	Air	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.832 in	20-232 psi	Steam	UV
4 NPS	6 NPS	10.3 in <sup>2</sup>	3.622 in	1.035 in	20-232 psi	Air	UV
4 NPS	6 NPS	10.3 in <sup>2</sup>	3.622 in	1.035 in	20-232 psi	Steam	UV

Design Name: 488 (Liquids)			NBCert # 37033	
Manufacturer/Assembler		Designators	Expiration Date	
Assembler		UV	02/20/2027	

#### Design Type

[Relief Valve] 488 (Liquids)  
 Capacity Tests: Sec. UV at National Board Testing Lab on June 1, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.472 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.216 in	15-232 psi	Water	UV
1.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.347 in	15-232 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.431 in	15-232 psi	Water	UV
2.5 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.562 in	15-232 psi	Water	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.693 in	15-232 psi	Water	UV
4 NPS	6 NPS	10.3 in <sup>2</sup>	3.622 in	0.862 in	15-232 psi	Water	UV

Design Name: 526 (Liquids)			NBCert # 37235	
Manufacturer/Assembler		Designators	Expiration Date	
Assembler		UV	06/06/2030	

## Design Type

[Relief Valve] 526 (Liquids)  
 Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 2, 2002  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.579 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Water	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Water	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Water	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Water	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.6698 in	15-1850 psi	Water	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Water	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Water	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Water	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.249 in	15-1038.5 psi	Water	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Water	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-914 psi	Water	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Water	UV

Design Name: 560, 570

NBCert # 02080

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	01/24/2026

## Design Type

[Safety Valve] 560, 570  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on November 10, 2005  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.856 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.221 in <sup>2</sup>	[E] 0.53 in	0.132 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.221 in <sup>2</sup>	[E] 0.53 in	0.132 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.352 in <sup>2</sup>	[F] 0.67 in	0.167 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.352 in <sup>2</sup>	[F] 0.67 in	0.167 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.567 in <sup>2</sup>	[G] 0.85 in	0.212 in	15-300 psi	Air	UV

1.25-1.5 NPS	1.5 NPS	0.567 in <sup>2</sup>	[G] 0.85 in	0.212 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.899 in <sup>2</sup>	[H] 1.07 in	0.267 in	15-300 psi	Air	UV
1.5-2 NPS	2 NPS	0.899 in <sup>2</sup>	[H] 1.07 in	0.267 in	15-300 psi	Steam	UV, V
2-2.5 NPS	2.5 NPS	1.463 in <sup>2</sup>	[J] 1.365 in	0.41 in	15-300 psi	Air	UV
2-2.5 NPS	2.5 NPS	1.463 in <sup>2</sup>	[J] 1.365 in	0.41 in	15-300 psi	Steam	UV, V

Design Name: Kunkle 6000, 6252 Series

NBCert #

36324

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV, V

05/27/2026

#### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV

3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name: Kunkle 910 to 919

NBCert #

36100

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

05/29/2026

#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV



Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)		NBCert #	36111
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	05/29/2026
Design Type			
[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid) Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.710 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

Design Name: Series 740		NBCert #	02091
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	01/24/2026
Design Type			
[Safety Relief Valve] Series 740 Capacity Tests: Sec. UV at National Board Testing Lab on November 21, 2012 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Aquatrol, Incorporated {AQT}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75, 1 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.105 in	15-1500 psi	Air	UV
0.5-1 NPS	0.75, 1 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.105 in	15-300 psi	Steam	UV
0.5-1.25 NPS	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Air	UV
0.5-1.25 NPS	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-300 psi	Steam	UV
0.75-1.5 in	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Air	UV
0.75-1.5 in	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-300 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.17 in	15-300 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.17 in	15-750 psi	Air	UV
1-2 in	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.017 in	15-750 psi	Air	UV
1-2 in	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.017 in	15-300 psi	Steam	UV

1.25-2 NPS	2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.215 in	15-300 psi	Steam	UV
1.25-2 NPS	2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.215 in	15-700 psi	Air	UV
1.5-2.5 NPS	2, 2.5 NPS	0.923 in <sup>2</sup>	[H] 1.084 in	0.28 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2, 2.5 NPS	0.923 in <sup>2</sup>	[H] 1.084 in	0.28 in	15-600 psi	Air	UV
2-3 NPS	3 NPS	1.418 in <sup>2</sup>	[J] 1.344 in	0.34 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	1.418 in <sup>2</sup>	[J] 1.344 in	0.34 in	15-600 psi	Air	UV

Design Name:	Series 740 (Liquid)	NBCert #	02103
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/24/2026

Design Type
[Safety Relief Valve] Series 740 (Liquid) Capacity Tests: Sec. UV at National Board Testing Lab on November 20, 2012 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.791 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Flow Area Configuration: Nozzle/Full Lift Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75, 1 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.105 in	15-1500 psi	Water	UV
0.75-1.25 NPS	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Water	UV
0.75-1.5 in	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.17 in	15-750 psi	Water	UV
1-2 in	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.017 in	15-750 psi	Water	UV
1.25-2 NPS	2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.215 in	15-700 psi	Water	UV
1.5-2.5 NPS	2, 2.5 NPS	0.923 in <sup>2</sup>	[H] 1.084 in	0.28 in	15-600 psi	Water	UV
2-3 NPS	3 NPS	1.418 in <sup>2</sup>	[J] 1.344 in	0.34 in	15-600 psi	Water	UV

<b>Allied Valve, Inc. (ALV)</b>	Nameplate Abbreviation: Allied Valve Inc
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Joliet, IL 60436United States

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/11/2029

## Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1811, 1511

NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/12/2029

## Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30 1900-35 LA & DALA  
(Liquids)

NBCert # 18784

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	02/15/2029

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V

1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/12/2029

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV

3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201) NBCert # 18223

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/12/2029

### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV

1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV

Design Name: 19000 Series		NBCert # 18706
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/12/2029
Design Type		

[Safety Relief Valve] 19000 Series  
 Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	02/15/2029
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#### Design Type

[Relief Valve] 19000 Series, Liquid  
 Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.673 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV



0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/12/2029

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/15/2029

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in²	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V
Design Name: 1900-DMNBCert # 19066							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			02/15/2029	
Design Type							
[Safety Relief Valve] 1900-DM Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in²	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in²	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in²	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in²	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in²	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in²	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in²	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in²	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in²	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in²	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in²	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in²	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in²	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in²	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in²	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in²	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in²	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in²	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in²	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in²	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in²	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in²	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in²	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in²	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in²	[U] 6.688 in	2.428 in	15-360 psi	Air	UV

8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name:	1900-DM-D	NBCert #	19088
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/15/2029

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name:	1900-DM-E	NBCert #	19099
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/15/2029

#### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name:	1900E-2, 1900-30E-2	NBCert #	18166
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/12/2029

**Design Type**

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

02/15/2029

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

02/15/2029

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	Kunkle 264, 265, 266 & 267	NBCert #	36267
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/12/2029

#### Design Type

[Safety Relief Valve] Kunkle 264, 265, 266 & 267  
Capacity Tests: Sec. UV at unknown lab on July 20, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.766 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-2000 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-3300 psi	Air	UV

Design Name:	Kunkle 30	NBCert #	36335
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/15/2029

#### Design Type

[Safety Relief Valve] Kunkle 30  
Capacity Tests: Sec. UV at unknown lab on December 18, 1989  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.186 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS			0.157 in	0.1 in	60-4000 psi	Air	UV

Design Name:	Kunkle 300,600	NBCert #	36076
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/12/2029

#### Design Type

[Safety Valve] Kunkle 300,600  
Capacity Tests: Sec. UV, V at unknown lab on February 10, 1961  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Air	UV

1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Air	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	V
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Air	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	V
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Air	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	V
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	UV

Design Name:	Kunkle 337	NBCert #	36278
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	02/15/2029
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#### Design Type

[Safety Relief Valve] Kunkle 337  
Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name: Kunkle 541-C/542-C/548-C (.422 Orifice) NBCert # 36302

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/15/2029

#### Design Type

[Safety Relief Valve] Kunkle 541-C/542-C/548-C (.422 Orifice)  
Capacity Tests: Sec. UV at unknown lab on May 20, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	Side NPS	0.14 in <sup>2</sup>	0.422 in	0.2 in	15-400 psi	Air	UV

Design Name: Kunkle 6000, 6252 Series NBCert # 36324

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/12/2029

#### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV

1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name:	Kunkle 910 to 919	NBCert #	36100
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	04/12/2029
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#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
 Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)		NBCert #	36111
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	02/15/2029

#### Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

## Allied Valve, Inc. (AVB)

Bismarck, ND 58501 United States

**This Company Manufactures or Assembles:**

Design Name: 1811, 1511		NBCert # 18122
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/24/2026

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30 1900-35 LA & DALA (Liquids)		NBCert # 18784
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/23/2026

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35 NBCert # 18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/23/2026

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series			NBCert # 18706	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		06/23/2026

## Design Type

[Safety Relief Valve] 19000 Series  
 Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/23/2026

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

## Allied Valve, Inc. (TPW)

Appleton, WI 54913United States

### This Company Manufactures or Assembles:

Design Name:	1700 & 2700	NBCert #	18100
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	09/01/2027	

## Design Type

[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name:	1700 & 2700 (Restricted Lift version of Cert. # 18100)	NBCert #	18111
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	09/01/2027
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#### Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV

1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 09/01/2027

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V



1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	11/11/2030
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#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V

8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert # 18201

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/01/2030

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV

6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series NBCert # 18706

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/20/2030

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV

1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/20/2030

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1982 NBCert # 18379

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/10/2027

**Design Type**

[Safety Relief Valve] 1982

Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab (Picaway) on May 6, 1980

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.855 Unitless

Media - Test: Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Air	NV, UV
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Steam	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Air	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Steam	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Air	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Air	NV, UV

Design Name: 1982 LS, 820000LS

NBCert #

18380

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/20/2030

**Design Type**

[Relief Valve] 1982 LS, 820000LS

Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.758 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Design Name: 3900 (39PV, 39MV pilots)	NBCert # 18447
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	09/01/2027
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/01/2030

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.743 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV



8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Design Name:	3900-TM (39PV, 39MV pilots)	NBCert #	01438
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/20/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV

2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV

10 NPS	14 NPS	69.94 in²	9.437 in	3 in	15-1500 psi	Water	UV
Design Name: C776NBCert #36425							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			06/10/2027	
Design Type							
[Safety Relief Valve] C776 Capacity Tests: Sec. UV at Crosby Valve, LLC on July 15, 2002 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.790 Unitless Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Regulator Technologies - Fromex S.A. de C.V. {FCF}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.169 in <sup>2</sup>	0.465 in	0.116 in	15-600 psi	Air	UV
1 NPS	1.25 NPS	0.34 in <sup>2</sup>	0.658 in	0.164 in	15-500 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.486 in <sup>2</sup>	0.787 in	0.197 in	15-600 psi	Air	UV
1.25 NPS	1.5 NPS	0.645 in <sup>2</sup>	0.906 in	0.227 in	15-500 psi	Air	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.286 in	15-500 psi	Air	UV
2-2.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.364 in	15-500 psi	Air	UV

Design Name: Kunkle 6000, 6252 Series		NBCert #	36324
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV, V	12/15/2027
Design Type			
[Safety Valve] Kunkle 6000, 6252 Series Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV

1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name: Kunkle 910 to 919

NBCert #

36100

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/01/2027

#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)		NBCert #	36111
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	09/01/2027

#### Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

**Allied Valve, Inc. (VRS)**

Nameplate Abbreviation: ALLIED  
VALVE, INC.

Riverdale, IA 52722United States

**This Company Manufactures or Assembles:**

Design Name: 1811, 1511		NBCert # 18122
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/23/2027

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30 1900-35 LA & DALA (Liquids)		NBCert # 18784
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/23/2027

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/23/2027

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series			NBCert # 18706	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		06/23/2027



## Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

## Allied Valve, Inc. (VSS)

Cannon Falls, MN 55009United States

**This Company Manufactures or Assembles:**

Design Name: 1700 & 2700	NBCert # 18100
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/29/2026

### Design Type

[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name:	1700 & 2700 (Restricted Lift version of Cert. # 18100)	NBCert #	18111
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	06/24/2026
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### Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	03/28/2030	

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)	NBCert #	18223
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	05/21/2026	

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV

Design Name: 19000 Series	NBCert # 18706
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	06/24/2026
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#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/28/2030

### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/22/2026

### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/19/2026

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 5.798 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 2900 (39PV & 39MV pilots) NBCert # 18863

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/24/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
 Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV



3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots)

NBCert #

18447

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

09/21/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV

1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV

8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

## Anderson Greenwood Crosby Sanmar Limited (TYC)

Pudukkottai District, Tamil Nadu, 621316India

### This Company Manufactures or Assembles:

Design Name:	243/249/443/449/546/843/849/943/5046/5049/8043/8049	NBCert #	01292
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/12/2029

### Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049

Capacity Tests: Sec. UV at unknown lab on August 8, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV

8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV
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Design Name:		253/259/453/459/853/859/953/959/5059/8053/8059	NBCert #	01304
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UV		12/12/2029
Design Type				
[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059				
Capacity Tests: Sec. UV at unknown lab on July 31, 1997				
Method of Establishing Relieving Capacity: Flow Capacity, K				
Certified Value: 0.627 Unitless				
Media - Test: Air/Gas; Certified: Air, Gas				
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge				
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot				
Flow Area Configuration: Curtain Area				
Designed by: Emerson Automation Solutions Final Control US LP {AGC}				

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name:		263/269/463/469/566/863/869/963/969/5066/5069	NBCert #	01315
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UV		02/12/2029
Design Type				
[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069				
Capacity Tests: Sec. UV at unknown lab on July 30, 1997				
Method of Establishing Relieving Capacity: Flow Capacity, K				
Certified Value: 0.860 Unitless				
Media - Test: Air/Gas; Certified: Air, Gas, Steam				
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge				
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot				
Flow Area Configuration: Nozzle/Full Lift				
Designed by: Emerson Automation Solutions Final Control US LP {AGC}				

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV

3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/13/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.767 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/11/2029

## Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.491 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 463/469/566/863/869/963/969/5066/5069 (Liquids) NBCert # 01348

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/06/2027

## Design Type

[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids)  
 Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.712 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name:	900 Series (Liquid), 7700, SNC	NBCert #	15499
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/09/2029

#### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name:	900 Series, 7700, SNC	NBCert #	15411
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/13/2029

## Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: HE NBCert # 15039

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	V	02/12/2030

## Design Type

[Safety Valve] HE  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 15, 1970  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.877 Unitless  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	0.307 in <sup>2</sup>	0.625 in	0.156 in	15-3100 psi	Steam	NV, V
1.5 NPS	2.5 NPS	0.503 in <sup>2</sup>	0.8 in	0.2 in	15-3100 psi	Steam	NV, V
1.5 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-3100 psi	Steam	NV, V
2 NPS	4 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-3100 psi	Steam	NV, V
2.5 NPS	6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.382 in	15-3100 psi	Steam	NV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-3100 psi	Steam	NV, V
3 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-3100 psi	Steam	NV, V
3 NPS	6 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.562 in	15-3100 psi	Steam	NV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	2.85 in	0.712 in	15-3100 psi	Steam	NV, V



4 NPS	6, 8 NPS	7.069 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	NV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.937 in	15-3100 psi	Steam	NV, V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-1500 psi	Steam	NV, V
8 NPS	10, 12, 14 NPS	19.369 in <sup>2</sup>	[R3] 4.966 in	1.242 in	15-3100 psi	Steam	NV, V
8 NPS	10, 12, 14 NPS	21.1 in <sup>2</sup>	[R5] 5.183 in	1.295 in	15-3100 psi	Steam	NV, V
8 NPS	14 NPS	22 in <sup>2</sup>	[R6] 5.295 in	1.324 in	15-3100 psi	Steam	NV, V
10 NPS	16 NPS	36.4 in <sup>2</sup>	[T2] 6.808 in	1.707 in	15-3100 psi	Steam	NV, V

Design Name: JB	NBCert # 15073
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/04/2027

#### Design Type

[Safety Relief Valve] JB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on August 8, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.856 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Crosby Valve, LLC {CVM}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	1-2 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.099 in	15-2900 psi	Steam	NV, UV
0.75-1.5 NPS	1-2 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.099 in	15-6000 psi	Air	NV, UV
0.75-1.5 NPS	1-2.5 NPS	0.2223 in <sup>2</sup>	[E] 0.532 in	0.133 in	15-2900 psi	Steam	NV, UV
0.75-1.5 NPS	1-2.5 NPS	0.2223 in <sup>2</sup>	[E] 0.532 in	0.133 in	15-6000 psi	Air	NV, UV
1-1.5 NPS	2 NPS	0.3484 in <sup>2</sup>	[F] 0.666 in	0.167 in	15-2900 psi	Steam	NV, UV
1-1.5 NPS	2 NPS	0.3484 in <sup>2</sup>	[F] 0.666 in	0.167 in	15-5000 psi	Air	NV, UV
1.5-2 NPS	2-3 NPS	0.57 in <sup>2</sup>	[G] 0.852 in	0.213 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2-3 NPS	0.57 in <sup>2</sup>	[G] 0.852 in	0.213 in	15-3705 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.891 in <sup>2</sup>	[H] 1.065 in	0.266 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.891 in <sup>2</sup>	[H] 1.065 in	0.266 in	15-2900 psi	Air	NV, UV
2 NPS	3 NPS	1.459 in <sup>2</sup>	[J] 1.363 in	0.34 in	15-2900 psi	Steam	NV, UV
2 NPS	3 NPS	1.459 in <sup>2</sup>	[J] 1.363 in	0.34 in	15-2900 psi	Air	NV, UV
3 NPS	4 NPS	2.087 in <sup>2</sup>	[K] 1.63 in	0.408 in	15-2900 psi	Steam	NV, UV
3 NPS	4 NPS	2.087 in <sup>2</sup>	[K] 1.63 in	0.408 in	15-2900 psi	Air	NV, UV
3 NPS	4 NPS	3.237 in <sup>2</sup>	[L] 2.03 in	0.508 in	15-1500 psi	Steam	NV, UV
3 NPS	4 NPS	3.237 in <sup>2</sup>	[L] 2.03 in	0.508 in	15-1500 psi	Air	NV, UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	0.57 in	15-1100 psi	Steam	NV, UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	0.57 in	15-1100 psi	Air	NV, UV
4 NPS	6 NPS	4.924 in <sup>2</sup>	[N] 2.504 in	0.626 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	4.924 in <sup>2</sup>	[N] 2.504 in	0.626 in	15-1000 psi	Air	NV, UV
4 NPS	6 NPS	7.234 in <sup>2</sup>	[P] 3.035 in	0.759 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	7.234 in <sup>2</sup>	[P] 3.035 in	0.759 in	15-1000 psi	Air	NV, UV

6 NPS	8 NPS	12.53 in <sup>2</sup>	[Q] 3.994 in	0.999 in	15-600 psi	Steam	NV, UV
6 NPS	8 NPS	12.53 in <sup>2</sup>	[Q] 3.994 in	0.999 in	15-600 psi	Air	NV, UV
6 NPS	8-10 NPS	18.148 in <sup>2</sup>	[R] 4.807 in	1.2 in	15-500 psi	Steam	NV, UV
6 NPS	8-10 NPS	18.148 in <sup>2</sup>	[R] 4.807 in	1.2 in	15-500 psi	Air	NV, UV
8 NPS	10 NPS	29.494 in <sup>2</sup>	[T] 6.128 in	1.532 in	15-500 psi	Steam	NV, UV
8 NPS	10 NPS	29.494 in <sup>2</sup>	[T] 6.128 in	1.532 in	15-500 psi	Air	NV, UV
10-12 NPS	14 NPS	38.485 in <sup>2</sup>	7 in	1.75 in	15-600 psi	Steam	NV, UV
10-12 NPS	14 NPS	38.485 in <sup>2</sup>	7 in	1.75 in	15-600 psi	Air	NV, UV
10-12 NPS	14 NPS	47.85 in <sup>2</sup>	[V] 7.805 in	1.951 in	15-500 psi	Steam	NV, UV
10-12 NPS	14 NPS	47.85 in <sup>2</sup>	[V] 7.805 in	1.951 in	15-500 psi	Air	NV, UV
12 NPS	16 NPS	68.9 in <sup>2</sup>	[W] 9.366 in	2.341 in	15-500 psi	Steam	NV, UV
12 NPS	16 NPS	68.9 in <sup>2</sup>	[W] 9.366 in	2.341 in	15-500 psi	Air	NV, UV
12 NPS	16 NPS	72 in <sup>2</sup>	[W1] 9.575 in	2.394 in	15-400 psi	Steam	NV, UV
12 NPS	16 NPS	72 in <sup>2</sup>	[W1] 9.575 in	2.394 in	15-400 psi	Air	NV, UV
14 NPS	18 NPS	93.78 in <sup>2</sup>	[Y] 10.927 in	2.732 in	15-400 psi	Air	NV, UV
14 NPS	18 NPS	93.78 in <sup>2</sup>	[Y] 10.927 in	2.732 in	15-400 psi	Steam	NV, UV
16 NPS	18 NPS	103.15 in <sup>2</sup>	[Z] 11.46 in	2.865 in	15-400 psi	Air	NV, UV
16 NPS	18 NPS	103.15 in <sup>2</sup>	[Z] 11.46 in	2.865 in	15-400 psi	Steam	NV, UV
18-20 NPS	24 NPS	108.434 in <sup>2</sup>	11.75 in	2.938 in	15-600 psi	Air	NV, UV
18-20 NPS	24 NPS	108.434 in <sup>2</sup>	11.75 in	2.938 in	15-600 psi	Steam	NV, UV
16 NPS	18 NPS	110 in <sup>2</sup>	[Z1] 11.835 in	2.959 in	15-400 psi	Air	NV, UV
16 NPS	18 NPS	110 in <sup>2</sup>	[Z1] 11.835 in	2.959 in	15-400 psi	Steam	NV, UV
16 NPS	20-22 NPS	123.47 in <sup>2</sup>	[Z2] 12.538 in	3.135 in	15-400 psi	Air	NV, UV
16 NPS	20-22 NPS	123.47 in <sup>2</sup>	[Z2] 12.538 in	3.135 in	15-400 psi	Steam	NV, UV
18-20 NPS	24 NPS	155.04 in <sup>2</sup>	[AA] 14.05 in	3.513 in	15-400 psi	Steam	NV, UV
18-20 NPS	24 NPS	155.04 in <sup>2</sup>	[AA] 14.05 in	3.513 in	15-400 psi	Air	NV, UV
20 NPS	24 NPS	191.38 in <sup>2</sup>	[BB] 15.61 in	3.902 in	15-400 psi	Air	NV, UV
20 NPS	24 NPS	191.38 in <sup>2</sup>	[BB] 15.61 in	3.902 in	15-400 psi	Steam	NV, UV
20 NPS	24 NPS	213.82 in <sup>2</sup>	[BB2] 16.5 in	4.125 in	15-300 psi	Air	NV, UV
20 NPS	24 NPS	213.82 in <sup>2</sup>	[BB2] 16.5 in	4.125 in	15-300 psi	Steam	NV, UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	11/15/2029

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/25/2027

## Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV

6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) (ADS)

Nameplate Abbreviation: A.S.T. Spa

Cornaredo (Milano), 20007Italy

### This Company Manufactures or Assembles:

Design Name: SHL-7000 / SUL-7000		NBCert #	07232
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	10/26/2028
Design Type			
<p>[Safety Relief Valve] SHL-7000 / SUL-7000 Capacity Tests: Sec. UV at National Board Testing Lab on February 7, 2017 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.901 SCFM/PSIA; (alternate medium): 5.340 PPH/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}</p>			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1-1.5 NPS	0.121 in <sup>2</sup>	[D] 0.394 in	0.102 in	15-10000 psi	Air	UV
0.75-1 NPS	1-1.5 NPS	0.121 in <sup>2</sup>	[D] 0.394 in	0.102 in	15-6000 psi	Steam	UV

Design Name:	SHL-7000 / SUL-7000 (Liquid)	NBCert #	07243
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	10/26/2028	

**Design Type**

[Relief Valve] SHL-7000 / SUL-7000 (Liquid)  
 Capacity Tests: Sec. UV at National Board Testing Lab on February 7, 2017  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 3.166 GPM/SQ. RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1-1.5 NPS	0.121 in <sup>2</sup>	[D] 0.394 in	0.102 in	15-10000 psi	Water	UV

Design Name: SMG-7000

NBCert # 07175

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/25/2027

**Design Type**

[Safety Relief Valve] SMG-7000  
 Capacity Tests: Sec. UV at National Board Testing Lab on May 13, 2015  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.869 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[F] 0.654 in	0.213 in	15-6000 psi	Steam	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[F] 0.654 in	0.213 in	15-6291 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.547 in <sup>2</sup>	[G] 0.835 in	0.217 in	15-6000 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.547 in <sup>2</sup>	[G] 0.835 in	0.217 in	15-6291 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[H] 1.043 in	0.299 in	15-3775 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[H] 1.043 in	0.299 in	15-3775 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[J] 1.339 in	0.35 in	15-3775 psi	Air	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[J] 1.339 in	0.35 in	15-3775 psi	Steam	UV
3 NPS	4, 6 NPS	2.007 in <sup>2</sup>	[K] 1.598 in	0.419 in	15-3775 psi	Air	UV
3 NPS	4, 6 NPS	2.007 in <sup>2</sup>	[K] 1.598 in	0.419 in	15-3775 psi	Steam	UV
3 NPS	4, 6 NPS	2.576 in <sup>2</sup>	[K2] 1.811 in	0.472 in	15-3775 psi	Air	UV
3 NPS	4, 6 NPS	2.576 in <sup>2</sup>	[K2] 1.811 in	0.472 in	15-3775 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.117 in <sup>2</sup>	[L] 1.992 in	0.52 in	15-3775 psi	Air	UV
3-4 NPS	4, 6 NPS	3.117 in <sup>2</sup>	[L] 1.992 in	0.52 in	15-3775 psi	Steam	UV
4 NPS	6 NPS	3.928 in <sup>2</sup>	[M] 2.236 in	0.583 in	15-2264 psi	Air	UV
4 NPS	6 NPS	3.928 in <sup>2</sup>	[M] 2.236 in	0.583 in	15-2264 psi	Steam	UV
4 NPS	6 NPS	4.74 in <sup>2</sup>	[N] 2.457 in	0.643 in	15-2264 psi	Air	UV
4 NPS	6 NPS	4.74 in <sup>2</sup>	[N] 2.457 in	0.643 in	15-2264 psi	Steam	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[P] 2.98 in	0.778 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[P] 2.98 in	0.778 in	15-2264 psi	Steam	UV

6 NPS	8, 10 NPS	9.861 in <sup>2</sup>	[P2] 3.543 in	0.923 in	15-3775 psi	Air	UV
6 NPS	8, 10 NPS	9.861 in <sup>2</sup>	[P2] 3.543 in	0.923 in	15-3775 psi	Steam	UV
6 NPS	8 NPS	12.077 in <sup>2</sup>	[Q] 3.921 in	1.024 in	15-1509 psi	Air	UV
6 NPS	8 NPS	12.077 in <sup>2</sup>	[Q] 3.921 in	1.024 in	15-1509 psi	Steam	UV
6 NPS	8, 10 NPS	14.784 in <sup>2</sup>	[Q2] 4.339 in	1.134 in	15-3775 psi	Air	UV
6 NPS	8, 10 NPS	14.784 in <sup>2</sup>	[Q2] 4.339 in	1.134 in	15-3775 psi	Steam	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[R] 4.717 in	1.228 in	15-1509 psi	Air	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[R] 4.717 in	1.228 in	15-1509 psi	Steam	UV
8 NPS	10 NPS	22.949 in <sup>2</sup>	[R2] 5.406 in	1.411 in	15-754 psi	Air	UV
8 NPS	10 NPS	22.949 in <sup>2</sup>	[R2] 5.406 in	1.411 in	15-754 psi	Steam	UV
8 NPS	10, 12 NPS	28.423 in <sup>2</sup>	[T] 6.016 in	1.569 in	15-754 psi	Air	UV
8 NPS	10, 12 NPS	28.423 in <sup>2</sup>	[T] 6.016 in	1.569 in	15-754 psi	Steam	UV
8 NPS	10 NPS	30.97 in <sup>2</sup>	[T2] 6.28 in	1.638 in	15-754 psi	Air	UV
8 NPS	10 NPS	30.97 in <sup>2</sup>	[T2] 6.28 in	1.638 in	15-754 psi	Steam	UV

Design Name: SMG-7000 (Restricted Lift) NBCert # 07197

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/12/2027

#### Design Type

[Safety Relief Valve] SMG-7000 (Restricted Lift)  
Capacity Tests: Sec. UV at National Board Testing Lab on May 13, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D1] 0.654 in	0.087 in	15-6000 psi	Steam	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D1] 0.654 in	0.087 in	15-6291 psi	Air	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D2] 0.654 in	0.118 in	15-6000 psi	Steam	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D2] 0.654 in	0.118 in	15-6291 psi	Air	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[E] 0.654 in	0.138 in	15-6000 psi	Steam	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[E] 0.654 in	0.138 in	15-6291 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G4] 1.043 in	0.28 in	15-3775 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G4] 1.043 in	0.28 in	15-3775 psi	Steam	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G2] 1.043 in	0.244 in	15-3775 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G2] 1.043 in	0.244 in	15-3775 psi	Steam	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G3] 1.043 in	0.264 in	15-3775 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G3] 1.043 in	0.264 in	15-3775 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H4] 1.339 in	0.299 in	15-3775 psi	Air	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H4] 1.339 in	0.299 in	15-3775 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H3] 1.339 in	0.268 in	15-3775 psi	Air	UV



2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H3] 1.339 in	0.268 in	15-3775 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H1] 1.339 in	0.236 in	15-3775 psi	Air	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H1] 1.339 in	0.236 in	15-3775 psi	Steam	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[M] 2.98 in	0.437 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[M] 2.98 in	0.437 in	15-2264 psi	Steam	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[N] 2.98 in	0.528 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[N] 2.98 in	0.528 in	15-2264 psi	Steam	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[L] 2.98 in	0.346 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[L] 2.98 in	0.346 in	15-2264 psi	Steam	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[N2] 2.98 in	0.622 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[N2] 2.98 in	0.622 in	15-2264 psi	Steam	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[P2] 4.717 in	0.693 in	15-1509 psi	Air	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[P2] 4.717 in	0.693 in	15-1509 psi	Steam	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q] 4.717 in	0.846 in	15-1509 psi	Air	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q] 4.717 in	0.846 in	15-1509 psi	Steam	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q2] 4.717 in	1.039 in	15-1509 psi	Air	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q2] 4.717 in	1.039 in	15-1509 psi	Steam	UV

Design Name: SML-7000 (Liquid)

NBCert #

07186

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

09/25/2027

#### Design Type

[Relief Valve] SML-7000 (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on May 13, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.699 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.121 in <sup>2</sup>	[D] 0.394 in	0.15 in	15-10660 psi	Water	UV
1-1.5 NPS	2-3 NPS	0.215 in <sup>2</sup>	[E] 0.524 in	0.196 in	15-6291 psi	Water	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[F] 0.654 in	0.24 in	15-6291 psi	Water	UV
1-2 NPS	2-3 NPS	0.547 in <sup>2</sup>	[G] 0.835 in	0.265 in	15-6291 psi	Water	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[H] 1.043 in	0.299 in	15-3775 psi	Water	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[J] 1.339 in	0.425 in	15-3775 psi	Water	UV
3 NPS	4, 6 NPS	2.007 in <sup>2</sup>	[K] 1.598 in	0.501 in	15-3775 psi	Water	UV
3 NPS	4, 6 NPS	2.576 in <sup>2</sup>	[K2] 1.811 in	0.576 in	15-3775 psi	Water	UV
3-4 NPS	4, 6 NPS	3.117 in <sup>2</sup>	[L] 1.992 in	0.633 in	15-3775 psi	Water	UV
4 NPS	6 NPS	3.928 in <sup>2</sup>	[M] 2.236 in	0.712 in	15-2264 psi	Water	UV
4 NPS	6 NPS	4.74 in <sup>2</sup>	[N] 2.547 in	0.781 in	15-2264 psi	Water	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[P] 2.98 in	0.948 in	15-2264 psi	Water	UV



6 NPS	8, 10 NPS	9.861 in <sup>2</sup>	[P2] 3.543 in	1.124 in	15-3775 psi	Water	UV
6 NPS	8 NPS	12.077 in <sup>2</sup>	[Q] 3.921 in	1.244 in	15-1509 psi	Water	UV
6 NPS	8, 10 NPS	14.784 in <sup>2</sup>	[Q2] 4.339 in	1.38 in	15-3775 psi	Water	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[R] 4.717 in	1.502 in	15-1509 psi	Water	UV
8 NPS	10 NPS	22.949 in <sup>2</sup>	[R2] 5.406 in	1.732 in	15-754 psi	Water	UV
8 NPS	10, 12 NPS	28.423 in <sup>2</sup>	[T] 6.016 in	1.937 in	15-754 psi	Water	UV
8 NPS	10 NPS	30.97 in <sup>2</sup>	[T2] 6.28 in	2.004 in	15-754 psi	Water	UV

Design Name: SML-7000 (Liquid) (Restricted Lift) NBCert # 07209

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/25/2027

#### Design Type

[Relief Valve] SML-7000 (Liquid) (Restricted Lift)  
Capacity Tests: Sec. UV at National Board Testing Lab on May 13, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.699 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[E] 0.654 in	0.154 in	15-6291 psi	Water	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D1] 0.654 in	0.098 in	15-6291 psi	Water	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D2] 0.654 in	0.134 in	15-6291 psi	Water	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G3] 1.043 in	0.264 in	15-3775 psi	Water	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G2] 1.043 in	0.244 in	15-3775 psi	Water	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G4] 1.043 in	0.28 in	15-3775 psi	Water	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H1] 1.339 in	0.287 in	15-3775 psi	Water	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H4] 1.339 in	0.362 in	15-3775 psi	Water	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H3] 1.339 in	0.327 in	15-3775 psi	Water	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[L] 2.98 in	0.425 in	15-2264 psi	Water	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[N] 2.98 in	0.646 in	15-2264 psi	Water	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[N2] 2.98 in	0.76 in	15-2264 psi	Water	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[M] 2.98 in	0.535 in	15-2264 psi	Water	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q] 4.717 in	1.039 in	15-1509 psi	Water	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q2] 4.717 in	1.272 in	15-1509 psi	Water	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[P2] 4.717 in	0.846 in	15-1509 psi	Water	UV

Design Name: SML-7000 (Steam & Air/Gas) NBCert # 07210

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 11/30/2028

## Design Type

[Safety Relief Valve] SML-7000 (Steam & Air/Gas)  
 Capacity Tests: Sec. UV at National Board Testing Lab on September 14, 2016  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.869 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.121 in <sup>2</sup>	[D] 0.394 in	0.15 in	15-10660 psi	Air	UV
1-1.8125 NPS	2-3 NPS	0.121 in <sup>2</sup>	[D] 0.394 in	0.15 in	15-6000 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.215 in <sup>2</sup>	[E] 0.524 in	0.196 in	15-6000 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.215 in <sup>2</sup>	[E] 0.524 in	0.196 in	15-6291 psi	Air	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[F] 0.654 in	0.24 in	15-6000 psi	Steam	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[F] 0.654 in	0.24 in	15-6291 psi	Air	UV
1-2 NPS	2-3 NPS	0.547 in <sup>2</sup>	[G] 0.835 in	0.265 in	15-6000 psi	Steam	UV
1-2 NPS	2-3 NPS	0.547 in <sup>2</sup>	[G] 0.835 in	0.265 in	15-6291 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[H] 1.043 in	0.299 in	15-3775 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[H] 1.043 in	0.299 in	15-3775 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[J] 1.339 in	0.425 in	15-3775 psi	Air	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[J] 1.339 in	0.425 in	15-3775 psi	Steam	UV
3 NPS	4, 6 NPS	2.007 in <sup>2</sup>	[K] 1.598 in	0.501 in	15-3775 psi	Air	UV
3 NPS	4, 6 NPS	2.007 in <sup>2</sup>	[K] 1.598 in	0.501 in	15-3775 psi	Steam	UV
3 NPS	4, 6 NPS	2.576 in <sup>2</sup>	[K2] 1.811 in	0.576 in	15-3775 psi	Air	UV
3 NPS	4, 6 NPS	2.576 in <sup>2</sup>	[K2] 1.811 in	0.576 in	15-3775 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.117 in <sup>2</sup>	[L] 1.992 in	0.633 in	15-3775 psi	Air	UV
3-4 NPS	4, 6 NPS	3.117 in <sup>2</sup>	[L] 1.992 in	0.633 in	15-3775 psi	Steam	UV
4 NPS	6 NPS	3.928 in <sup>2</sup>	[M] 2.236 in	0.712 in	15-2264 psi	Air	UV
4 NPS	6 NPS	3.928 in <sup>2</sup>	[M] 2.236 in	0.712 in	15-2264 psi	Steam	UV
4 NPS	6 NPS	4.74 in <sup>2</sup>	[N] 2.547 in	0.781 in	15-2264 psi	Air	UV
4 NPS	6 NPS	4.74 in <sup>2</sup>	[N] 2.547 in	0.781 in	15-2264 psi	Steam	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[P] 2.98 in	0.948 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[P] 2.98 in	0.948 in	15-2264 psi	Steam	UV
6 NPS	8, 10 NPS	9.861 in <sup>2</sup>	[P2] 3.543 in	1.124 in	15-3775 psi	Air	UV
6 NPS	8, 10 NPS	9.861 in <sup>2</sup>	[P2] 3.543 in	1.124 in	15-3775 psi	Steam	UV
6 NPS	8 NPS	12.077 in <sup>2</sup>	[Q] 3.921 in	1.244 in	15-1509 psi	Air	UV
6 NPS	8 NPS	12.077 in <sup>2</sup>	[Q] 3.921 in	1.244 in	15-1509 psi	Steam	UV
6 NPS	8, 10 NPS	14.784 in <sup>2</sup>	[Q2] 4.339 in	1.38 in	15-3775 psi	Air	UV
6 NPS	8, 10 NPS	14.784 in <sup>2</sup>	[Q2] 4.339 in	1.38 in	15-3775 psi	Steam	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[R] 4.717 in	1.502 in	15-1509 psi	Air	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[R] 4.717 in	1.502 in	15-1509 psi	Steam	UV
8 NPS	10 NPS	22.949 in <sup>2</sup>	[R2] 5.406 in	1.732 in	15-754 psi	Air	UV

8 NPS	10 NPS	22.949 in <sup>2</sup>	[R2] 5.406 in	1.732 in	15-754 psi	Steam	UV
8 NPS	10, 12 NPS	28.423 in <sup>2</sup>	[T] 6.016 in	1.937 in	15-754 psi	Air	UV
8 NPS	10, 12 NPS	28.423 in <sup>2</sup>	[T] 6.016 in	1.937 in	15-754 psi	Steam	UV
8 NPS	10 NPS	30.97 in <sup>2</sup>	[T2] 6.28 in	2.004 in	15-754 psi	Air	UV
8 NPS	10 NPS	30.97 in <sup>2</sup>	[T2] 6.28 in	2.004 in	15-754 psi	Steam	UV

Design Name:	SML-7000 (Steam & Air/Gas) (Restricted Lift)	NBCert #	07221
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/26/2028

#### Design Type

[Safety Relief Valve] SML-7000 (Steam & Air/Gas) (Restricted Lift)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 14, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[E] 0.654 in	0.154 in	15-6000 psi	Steam	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[E] 0.654 in	0.154 in	15-6291 psi	Air	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D2] 0.654 in	0.134 in	15-6000 psi	Steam	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D2] 0.654 in	0.134 in	15-6291 psi	Air	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D1] 0.654 in	0.098 in	15-6000 psi	Steam	UV
1-2 NPS	2-3 NPS	0.335 in <sup>2</sup>	[D1] 0.654 in	0.098 in	15-6291 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G4] 1.043 in	0.28 in	15-3775 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G4] 1.043 in	0.28 in	15-3775 psi	Steam	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G2] 1.043 in	0.244 in	15-3775 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G2] 1.043 in	0.244 in	15-3775 psi	Steam	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G3] 1.043 in	0.264 in	15-3775 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[G3] 1.043 in	0.264 in	15-3775 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H1] 1.339 in	0.287 in	15-3775 psi	Air	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H1] 1.339 in	0.287 in	15-3775 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H3] 1.339 in	0.327 in	15-3775 psi	Air	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H3] 1.339 in	0.327 in	15-3775 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H4] 1.339 in	0.362 in	15-3775 psi	Air	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[H4] 1.339 in	0.362 in	15-3775 psi	Steam	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[L] 2.98 in	0.425 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[L] 2.98 in	0.425 in	15-2264 psi	Steam	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[M] 2.98 in	0.535 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[M] 2.98 in	0.535 in	15-2264 psi	Steam	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[N2] 2.98 in	0.76 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[N2] 2.98 in	0.76 in	15-2264 psi	Steam	UV

4 NPS	6 NPS	6.976 in <sup>2</sup>	[N] 2.98 in	0.646 in	15-2264 psi	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[N] 2.98 in	0.646 in	15-2264 psi	Steam	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[P2] 4.717 in	0.846 in	15-1509 psi	Air	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[P2] 4.717 in	0.846 in	15-1509 psi	Steam	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q2] 4.717 in	1.272 in	15-1509 psi	Air	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q2] 4.717 in	1.272 in	15-1509 psi	Steam	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q] 4.717 in	1.039 in	15-1509 psi	Air	UV
6 NPS	8, 10 NPS	17.472 in <sup>2</sup>	[Q] 4.717 in	1.039 in	15-1509 psi	Steam	UV

Design Name: SVP-7200 (Full Lift) NBCert # 07131

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/19/2026

### Design Type

[Pilot Operated Pressure Relief Valve] SVP-7200 (Full Lift)  
Capacity Tests: Sec. UV at National Board Testing Lab on May 15, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2, 3 NPS	0.1217 in <sup>2</sup>	[D] 0.394 in	0.087 in	15-6000 psi	Steam	UV
1-1.8125 NPS	2, 3 NPS	0.1217 in <sup>2</sup>	[D] 0.394 in	0.087 in	15-15000 psi	Air	UV
1-1.8125 NPS	2, 3 NPS	0.2385 in <sup>2</sup>	[E] 0.551 in	0.114 in	15-15000 psi	Air	UV
1-1.8125 NPS	2, 3 NPS	0.2385 in <sup>2</sup>	[E] 0.551 in	0.114 in	15-6000 psi	Steam	UV
1-1.8125 NPS	2, 3 NPS	0.3945 in <sup>2</sup>	[F1] 0.709 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2, 3 NPS	0.3945 in <sup>2</sup>	[F1] 0.709 in	0.25 in	15-6000 psi	Steam	UV
1.5-2.0625 NPS	2, 3 NPS	0.5892 in <sup>2</sup>	[G1] 0.866 in	0.41 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	2, 3 NPS	0.5892 in <sup>2</sup>	[G1] 0.866 in	0.41 in	15-6000 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9207 in <sup>2</sup>	[H2] 1.083 in	0.512 in	15-15000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9207 in <sup>2</sup>	[H2] 1.083 in	0.512 in	15-6000 psi	Steam	UV
1.5 NPS	2 NPS	1.3257 in <sup>2</sup>	[B4] 1.299 in	0.803 in	15-3775 psi	Air	UV
1.5 NPS	2 NPS	1.3257 in <sup>2</sup>	[B4] 1.299 in	0.803 in	15-3775 psi	Steam	UV
1.5-3 NPS	2-4 NPS	1.4913 in <sup>2</sup>	[J1] 1.378 in	0.709 in	15-15000 psi	Air	UV
1.5-3 NPS	2-4 NPS	1.4913 in <sup>2</sup>	[J1] 1.378 in	0.709 in	15-6000 psi	Steam	UV
2.5625-4 NPS	4, 6 NPS	2.0465 in <sup>2</sup>	[K1] 1.614 in	0.776 in	15-10000 psi	Air	UV
2.5625-4 NPS	4, 6 NPS	2.0465 in <sup>2</sup>	[K1] 1.614 in	0.776 in	15-6000 psi	Steam	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	[B6] 1.811 in	1.157 in	15-3775 psi	Air	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	[B6] 1.811 in	1.157 in	15-3775 psi	Steam	UV
2 NPS	3 NPS	2.8049 in <sup>2</sup>	[B5] 1.89 in	1.157 in	15-1509 psi	Air	UV
2 NPS	3 NPS	2.8049 in <sup>2</sup>	[B5] 1.89 in	1.157 in	15-1509 psi	Steam	UV
2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[L2] 2.047 in	0.984 in	15-10000 psi	Air	UV

2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[L2] 2.047 in	0.984 in	15-6000 psi	Steam	UV
4-5.125 NPS	6 NPS	3.9553 in <sup>2</sup>	[M1] 2.244 in	1.017 in	15-10000 psi	Air	UV
4-5.125 NPS	6 NPS	3.9553 in <sup>2</sup>	[M1] 2.244 in	1.017 in	15-3775 psi	Steam	UV
4-5.125 NPS	6 NPS	4.8317 in <sup>2</sup>	[N1] 2.48 in	1.124 in	15-10000 psi	Air	UV
4-5.125 NPS	6 NPS	4.8317 in <sup>2</sup>	[N1] 2.48 in	1.124 in	15-3775 psi	Steam	UV
3 NPS	4 NPS	5.7959 in <sup>2</sup>	[B9] 2.717 in	1.622 in	15-3775 psi	Air	UV
3 NPS	4 NPS	5.7959 in <sup>2</sup>	[B9] 2.717 in	1.622 in	15-3775 psi	Steam	UV
3 NPS	4 NPS	6.3108 in <sup>2</sup>	[B8] 2.835 in	1.622 in	15-2264 psi	Air	UV
3 NPS	4 NPS	6.3108 in <sup>2</sup>	[B8] 2.835 in	1.622 in	15-2264 psi	Steam	UV
3 NPS	4 NPS	6.6663 in <sup>2</sup>	[B7] 2.913 in	1.622 in	15-1509 psi	Air	UV
3 NPS	4 NPS	6.6663 in <sup>2</sup>	[B7] 2.913 in	1.622 in	15-1509 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.5977 in <sup>2</sup>	[P3] 3.11 in	1.409 in	15-6000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.5977 in <sup>2</sup>	[P3] 3.11 in	1.409 in	15-3775 psi	Steam	UV
4 NPS	6 NPS	10.7567 in <sup>2</sup>	[BA] 3.701 in	2.035 in	15-3775 psi	Air	UV
4 NPS	6 NPS	10.7567 in <sup>2</sup>	[BA] 3.701 in	2.035 in	15-3775 psi	Steam	UV
6 NPS	8 NPS	14.7838 in <sup>2</sup>	[Q2] 4.339 in	1.901 in	15-3775 psi	Air	UV
6 NPS	8 NPS	14.7838 in <sup>2</sup>	[Q2] 4.339 in	1.901 in	15-3775 psi	Steam	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[R3] 4.843 in	2.122 in	15-3775 psi	Air	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[R3] 4.843 in	2.122 in	15-3775 psi	Steam	UV
6 NPS	8 NPS	23.1836 in <sup>2</sup>	[BF] 5.433 in	3 in	15-2604 psi	Air	UV
6 NPS	8 NPS	23.1836 in <sup>2</sup>	[BF] 5.433 in	3 in	15-2604 psi	Steam	UV
8 NPS	10, 12 NPS	30.3905 in <sup>2</sup>	[T1] 6.22 in	2.713 in	15-3775 psi	Air	UV
8 NPS	10, 12 NPS	30.3905 in <sup>2</sup>	[T1] 6.22 in	2.713 in	15-3775 psi	Steam	UV
8 NPS	8 NPS	31.9487 in <sup>2</sup>	[BG] 6.378 in	3.52 in	15-1509 psi	Air	UV
8 NPS	8 NPS	31.9487 in <sup>2</sup>	[BG] 6.378 in	3.52 in	15-1509 psi	Steam	UV
8 NPS	10 NPS	43.9471 in <sup>2</sup>	[BK] 7.48 in	4.126 in	15-1509 psi	Air	UV
8 NPS	10 NPS	43.9471 in <sup>2</sup>	[BK] 7.48 in	4.126 in	15-1509 psi	Steam	UV

Design Name: SVP-7200 (Full Lift) (Liquid) NBCert # 07120

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/17/2025

#### Design Type

[Pilot Operated Pressure Relief Valve] SVP-7200 (Full Lift) (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on May 14, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.765 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2, 3 NPS	0.1217 in <sup>2</sup>	[D] 0.394 in	0.087 in	15-15000 psi	Water	UV
1-1.8125 NPS	2, 3 NPS	0.2385 in <sup>2</sup>	[E] 0.551 in	0.114 in	15-15000 psi	Water	UV

1-1.8125 NPS	2, 3 NPS	0.3945 in <sup>2</sup>	[F1] 0.709 in	0.25 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	2, 3 NPS	0.5892 in <sup>2</sup>	[G1] 0.866 in	0.41 in	15-15000 psi	Water	UV
1.5-2 NPS	3 NPS	0.9207 in <sup>2</sup>	[H2] 1.083 in	0.512 in	15-15000 psi	Water	UV
1.5 NPS	2 NPS	1.3257 in <sup>2</sup>	[B4] 1.299 in	0.803 in	15-3775 psi	Water	UV
1.5-3 NPS	2-4 NPS	1.4913 in <sup>2</sup>	[J1] 1.378 in	0.709 in	15-15000 psi	Water	UV
2.5625-4 NPS	4, 6 NPS	2.0465 in <sup>2</sup>	[K1] 1.614 in	0.776 in	15-10000 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	[B6] 1.811 in	1.157 in	15-3775 psi	Water	UV
2 NPS	3 NPS	2.8049 in <sup>2</sup>	[B5] 1.89 in	1.157 in	15-1509 psi	Water	UV
2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[L2] 2.047 in	0.984 in	15-10000 psi	Water	UV
4-5.125 NPS	6 NPS	3.9553 in <sup>2</sup>	[M1] 2.244 in	1.017 in	15-10000 psi	Water	UV
4-5.125 NPS	6 NPS	4.8317 in <sup>2</sup>	[N1] 2.48 in	1.124 in	15-10000 psi	Water	UV
3 NPS	4 NPS	5.7959 in <sup>2</sup>	[B9] 2.717 in	1.622 in	15-3775 psi	Water	UV
3 NPS	4 NPS	6.3108 in <sup>2</sup>	[B8] 2.835 in	1.622 in	15-2264 psi	Water	UV
3 NPS	4 NPS	6.6663 in <sup>2</sup>	[B7] 2.913 in	1.622 in	15-1509 psi	Water	UV
4-6 NPS	6, 8 NPS	7.5977 in <sup>2</sup>	[P3] 3.11 in	1.409 in	15-6000 psi	Water	UV
4 NPS	6 NPS	10.7567 in <sup>2</sup>	[BA] 3.701 in	2.035 in	15-3775 psi	Water	UV
6 NPS	8 NPS	14.7838 in <sup>2</sup>	[Q2] 4.339 in	1.901 in	15-3775 psi	Water	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[R3] 4.843 in	2.122 in	15-3775 psi	Water	UV
6 NPS	8 NPS	23.1836 in <sup>2</sup>	[BF] 5.433 in	3 in	15-2264 psi	Water	UV
8 NPS	10, 12 NPS	30.3905 in <sup>2</sup>	[T1] 6.22 in	2.713 in	15-3775 psi	Water	UV
8 NPS	8 NPS	31.9487 in <sup>2</sup>	[BG] 6.378 in	3.52 in	15-1509 psi	Water	UV
8 NPS	10 NPS	43.9471 in <sup>2</sup>	[BK] 7.48 in	4.126 in	15-1509 psi	Water	UV

Design Name: SVP-7200 Restrict Lift NBCert # 07119

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/19/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] SVP-7200 Restrict Lift  
Capacity Tests: Sec. UV at National Board Testing Lab on May 15, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Restricted Lift  
Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2, 3 NPS	0.3945 in <sup>2</sup>	[E] 0.709 in	0.151 in	15-15000 psi	Air	UV
1-1.8125 NPS	2, 3 NPS	0.3945 in <sup>2</sup>	[E] 0.709 in	0.151 in	15-6000 psi	Steam	UV
1-1.8125 NPS	2, 3 NPS	0.3945 in <sup>2</sup>	[D] 0.709 in	0.077 in	15-15000 psi	Air	UV
1-1.8125 NPS	2, 3 NPS	0.3945 in <sup>2</sup>	[D] 0.709 in	0.077 in	15-6000 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9207 in <sup>2</sup>	[G1] 1.083 in	0.328 in	15-15000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9207 in <sup>2</sup>	[G1] 1.083 in	0.328 in	15-6000 psi	Steam	UV
1.8125-2.0625 NPS	3 NPS	1.4913 in <sup>2</sup>	[H1] 1.378 in	0.454 in	15-15000 psi	Air	UV

1.8125-2.0625 NPS	3 NPS	1.4913 in <sup>2</sup>	[H1] 1.378 in	0.454 in	15-6000 psi	Steam	UV
1.8125-2.0625 NPS	3 NPS	1.4913 in <sup>2</sup>	[G1] 1.378 in	0.28 in	15-15000 psi	Air	UV
1.8125-2.0625 NPS	3 NPS	1.4913 in <sup>2</sup>	[G1] 1.378 in	0.28 in	15-6000 psi	Steam	UV
2.5625-4 NPS	4,6 NPS	3.2917 in <sup>2</sup>	[J1] 2.047 in	0.446 in	15-10000 psi	Air	UV
2.5625-4 NPS	4,6 NPS	3.2917 in <sup>2</sup>	[J1] 2.047 in	0.446 in	15-3697 psi	Steam	UV
2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[K1] 2.047 in	0.612 in	15-10000 psi	Air	UV
2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[K1] 2.047 in	0.612 in	15-3697 psi	Steam	UV
2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[K2] 2.047 in	0.77 in	15-10000 psi	Air	UV
2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[K2] 2.047 in	0.77 in	15-3697 psi	Steam	UV
4 NPS	6 NPS	7.5977 in <sup>2</sup>	[L2] 3.11 in	0.61 in	15-6000 psi	Air	UV
4 NPS	6 NPS	7.5977 in <sup>2</sup>	[L2] 3.11 in	0.61 in	15-3775 psi	Steam	UV
4 NPS	6 NPS	7.5977 in <sup>2</sup>	[M1] 3.11 in	0.734 in	15-6000 psi	Air	UV
4 NPS	6 NPS	7.5977 in <sup>2</sup>	[M1] 3.11 in	0.734 in	15-3775 psi	Steam	UV
4 NPS	6 NPS	7.5977 in <sup>2</sup>	[N1] 3.11 in	0.896 in	15-6000 psi	Air	UV
4 NPS	6 NPS	7.5977 in <sup>2</sup>	[N1] 3.11 in	0.896 in	15-3775 psi	Steam	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[Q1] 4.843 in	1.403 in	15-3775 psi	Air	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[Q1] 4.843 in	1.403 in	15-3775 psi	Steam	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[Q2] 4.843 in	1.703 in	15-3775 psi	Air	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[Q2] 4.843 in	1.703 in	15-3775 psi	Steam	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[P2] 4.843 in	1.136 in	15-3775 psi	Air	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[P2] 4.843 in	1.136 in	15-3775 psi	Steam	UV
8 NPS	10, 12 NPS	30.3905 in <sup>2</sup>	[R2] 6.22 in	2.049 in	15-3775 psi	Air	UV
8 NPS	10, 12 NPS	30.3905 in <sup>2</sup>	[R2] 6.22 in	2.049 in	15-3775 psi	Steam	UV

Design Name:	SVP-7200 Restrict Lift (Liquid)	NBCert #	07108
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/17/2025

#### Design Type

[Pilot Operated Pressure Relief Valve] SVP-7200 Restrict Lift (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on May 14, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.765 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: APPARECCHI DI SICUREZZA E TENUTA SPA (A.S.T. SPA) {ADS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2, 3 NPS	0.3945 in <sup>2</sup>	[D] 0.709 in	0.077 in	15-15000 psi	Water	UV
1-1.8125 NPS	2, 3 NPS	0.3945 in <sup>2</sup>	[E] 0.709 in	0.151 in	15-15000 psi	Water	UV
1.5-2 NPS	3 NPS	0.9207 in <sup>2</sup>	[G1] 1.083 in	0.328 in	15-15000 psi	Water	UV
1.8125-2.0625 NPS	3 NPS	1.4913 in <sup>2</sup>	[H1] 1.378 in	0.454 in	15-15000 psi	Water	UV
1.8125-2.0625 NPS	3 NPS	1.4913 in <sup>2</sup>	[G1] 1.378 in	0.28 in	15-15000 psi	Water	UV



2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[J1] 2.047 in	0.446 in	15-10000 psi	Water	UV
2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[K2] 2.047 in	0.77 in	15-10000 psi	Water	UV
2.5625-4 NPS	4, 6 NPS	3.2917 in <sup>2</sup>	[K1] 2.047 in	0.612 in	15-10000 psi	Water	UV
4 NPS	6 NPS	7.5977 in <sup>2</sup>	[L2] 3.11 in	0.61 in	15-6000 psi	Water	UV
4 NPS	6 NPS	7.5977 in <sup>2</sup>	[N1] 3.11 in	0.896 in	15-6000 psi	Water	UV
4 NPS	6 NPS	7.5977 in <sup>2</sup>	[M1] 3.11 in	0.734 in	15-6000 psi	Water	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[P2] 4.843 in	1.136 in	15-3775 psi	Water	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[Q2] 4.843 in	1.703 in	15-3775 psi	Water	UV
6 NPS	8 NPS	18.4176 in <sup>2</sup>	[Q1] 4.843 in	1.403 in	15-3775 psi	Water	UV
8 NPS	10, 12 NPS	30.3905 in <sup>2</sup>	[R2] 6.22 in	2.049 in	15-3775 psi	Water	UV

## Applied Valve Technology, Inc. (AVT)

Nameplate Abbreviation: Applied Valve Technology

Chattanooga, TN 37406United States

### This Company Manufactures or Assembles:

Design Name:	Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)	NBCert #	36111
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/20/2030

### Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

## Aquatrol, Incorporated (AQT)

Nameplate Abbreviation: Aquatrol

Elburn, IL 60119United States

### This Company Manufactures or Assembles:



Design Name:	130, 132, 133, 135	NBCert #	02079
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 11/26/2030

#### Design Type

[Safety Relief Valve] 130, 132, 133, 135  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on October 15, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.403 SCFM/PSIA; (alternate medium): 1.130 PPH/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS	.5, Top NPS		0.5 in	0.024 in	15-200 psi	Air	UV
0.25-0.5 NPS	.5, Top NPS		0.5 in	0.024 in	15-200 psi	Steam	UV

Design Name:	140-A	NBCert #	02114
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/22/2031

#### Design Type

[Safety Relief Valve] 140-A  
Capacity Tests: Sec. UV at National Board Testing Lab on August 20, 2018  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.924 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS		0.0604 in <sup>2</sup>	0.281 in	0.09 in	15-450 psi	Air	UV

Design Name:	140-B	NBCert #	02125
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/22/2031

#### Design Type

[Safety Relief Valve] 140-B  
Capacity Tests: Sec. UV at National Board Testing Lab on August 20, 2018  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.487 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.75 NPS		0.0837 in <sup>2</sup>	0.39 in	0.12 in	15-450 psi	Air	UV

Design Name:	560, 570	NBCert #	02080
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	01/19/2028

### Design Type

[Safety Valve] 560, 570  
Capacity Tests: Sec. UV, V at National Board Testing Lab on November 10, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.856 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.221 in <sup>2</sup>	[E] 0.53 in	0.132 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.221 in <sup>2</sup>	[E] 0.53 in	0.132 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.352 in <sup>2</sup>	[F] 0.67 in	0.167 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.352 in <sup>2</sup>	[F] 0.67 in	0.167 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.567 in <sup>2</sup>	[G] 0.85 in	0.212 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.567 in <sup>2</sup>	[G] 0.85 in	0.212 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.899 in <sup>2</sup>	[H] 1.07 in	0.267 in	15-300 psi	Air	UV
1.5-2 NPS	2 NPS	0.899 in <sup>2</sup>	[H] 1.07 in	0.267 in	15-300 psi	Steam	UV, V
2-2.5 NPS	2.5 NPS	1.463 in <sup>2</sup>	[J] 1.365 in	0.41 in	15-300 psi	Air	UV
2-2.5 NPS	2.5 NPS	1.463 in <sup>2</sup>	[J] 1.365 in	0.41 in	15-300 psi	Steam	UV, V

Design Name:	88A, 89A	NBCert #	02002
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/26/2030

### Design Type

[Safety Relief Valve] 88A, 89A  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on October 15, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.644 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS		0.5 in	0.036 in	15-250 psi	Air	UV

Design Name: 88B, 89B		NBCert #	02013
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/26/2030
Design Type			
[Safety Relief Valve] 88B, 89B Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on October 15, 1980 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.930 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Aquatrol, Incorporated {AQT}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS		0.75 in	0.04 in	15-250 psi	Air	UV

Design Name: 88C, 89C		NBCert #	02024
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/26/2030
Design Type			
[Safety Relief Valve] 88C, 89C Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on October 14, 1980 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.274 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Aquatrol, Incorporated {AQT}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS		1 in	0.075 in	15-250 psi	Air	UV

Design Name: 88D, 89D		NBCert #	02035
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	11/26/2030	
Design Type			
[Safety Relief Valve] 88D, 89D Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on October 14, 1980 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.504 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Aquatrol, Incorporated {AQT}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS		1.25 in	0.086 in	15-250 psi	Air	UV

Design Name: 88E, 89E		NBCert #	02046
Manufacturer/Assembler	Designators		Expiration Date
Manufacturer	UV		11/26/2030
Design Type			
[Safety Relief Valve] 88E, 89E Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on October 14, 1980 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 4.900 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Aquatrol, Incorporated {AQT}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS		1.5 in	0.1 in	15-250 psi	Air	UV

Design Name: 88F, 89F		NBCert #	02057
Manufacturer/Assembler	Designators		Expiration Date
Manufacturer	UV		11/26/2030
Design Type			
[Safety Relief Valve] 88F, 89F Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on October 14, 1981 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 7.404 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Aquatrol, Incorporated {AQT}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2.5 NPS		2 in	0.12 in	15-250 psi	Air	UV

Design Name: Series 740		NBCert #	02091
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	02/11/2031	
Design Type			
[Safety Relief Valve] Series 740 Capacity Tests: Sec. UV at National Board Testing Lab on November 21, 2012 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Aquatrol, Incorporated {AQT}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75, 1 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.105 in	15-1500 psi	Air	UV
0.5-1 NPS	0.75, 1 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.105 in	15-300 psi	Steam	UV

0.5-1.25 NPS	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Air	UV
0.5-1.25 NPS	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-300 psi	Steam	UV
0.75-1.5 in	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Air	UV
0.75-1.5 in	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-300 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.17 in	15-300 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.17 in	15-750 psi	Air	UV
1-2 in	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.017 in	15-750 psi	Air	UV
1-2 in	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.017 in	15-300 psi	Steam	UV
1.25-2 NPS	2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.215 in	15-300 psi	Steam	UV
1.25-2 NPS	2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.215 in	15-700 psi	Air	UV
1.5-2.5 NPS	2, 2.5 NPS	0.923 in <sup>2</sup>	[H] 1.084 in	0.28 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2, 2.5 NPS	0.923 in <sup>2</sup>	[H] 1.084 in	0.28 in	15-600 psi	Air	UV
2-3 NPS	3 NPS	1.418 in <sup>2</sup>	[J] 1.344 in	0.34 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	1.418 in <sup>2</sup>	[J] 1.344 in	0.34 in	15-600 psi	Air	UV

Design Name: Series 740 (Liquid) NBCert # 02103

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/11/2031

#### Design Type

[Safety Relief Valve] Series 740 (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on November 20, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.791 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75, 1 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.105 in	15-1500 psi	Water	UV
0.75-1.25 NPS	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Water	UV
0.75-1.5 in	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.17 in	15-750 psi	Water	UV
1-2 in	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.017 in	15-750 psi	Water	UV
1.25-2 NPS	2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.215 in	15-700 psi	Water	UV
1.5-2.5 NPS	2, 2.5 NPS	0.923 in <sup>2</sup>	[H] 1.084 in	0.28 in	15-600 psi	Water	UV
2-3 NPS	3 NPS	1.418 in <sup>2</sup>	[J] 1.344 in	0.34 in	15-600 psi	Water	UV

## ARI-Armaturen Albert Richter GmbH & Co. KG (ARI)

Schloss Holte-Stukenbrock, 33758Germany

**This Company Manufactures or Assembles:**

Design Name: 901/902/911/912		NBCert #	08008
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	12/12/2029
Design Type			
[Safety Relief Valve] 901/902/911/912 Capacity Tests: Sec. UV at National Board Testing Lab on November 9, 2001 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.817 Unitless Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: ARI-Armaturen Albert Richter GmbH & Co. KG {ARI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5, 2.0 NPS	0.617 in <sup>2</sup>	0.886 in	0.22 in	30-493 psi	Air	UV
1 NPS	1.5, 2.0 NPS	0.617 in <sup>2</sup>	0.886 in	0.22 in	30-493 psi	Steam	UV
1.25 NPS	2.0 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	30-493 psi	Air	UV
1.25 NPS	2.0 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	30-493 psi	Steam	UV
1.5 NPS	2, 2.5 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	30-493 psi	Air	UV
1.5 NPS	2, 2.5 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	30-493 psi	Steam	UV
1.5 NPS	2.5, 3.0 NPS	1.578 in <sup>2</sup>	1.417 in	0.37 in	30-493 psi	Air	UV
1.5 NPS	2.5, 3.0 NPS	1.578 in <sup>2</sup>	1.417 in	0.37 in	30-493 psi	Steam	UV
2 NPS	3 NPS	2.465 in <sup>2</sup>	1.772 in	0.45 in	30-493 psi	Air	UV
2 NPS	3 NPS	2.465 in <sup>2</sup>	1.772 in	0.45 in	30-493 psi	Steam	UV
2.5-3 NPS	4 NPS	4.166 in <sup>2</sup>	2.303 in	0.61 in	30-406 psi	Air	UV
2.5-3 NPS	4 NPS	4.166 in <sup>2</sup>	2.303 in	0.61 in	30-406 psi	Steam	UV
4 NPS	6 NPS	9.861 in <sup>2</sup>	3.543 in	0.98 in	30-276 psi	Air	UV
4 NPS	6 NPS	9.861 in <sup>2</sup>	3.543 in	0.98 in	30-276 psi	Steam	UV
5-6 NPS	8 NPS	13.678 in <sup>2</sup>	4.173 in	1.34 in	30-392 psi	Air	UV
5-6 NPS	8 NPS	13.678 in <sup>2</sup>	4.173 in	1.34 in	30-392 psi	Steam	UV
6 NPS	10 NPS	19.022 in <sup>2</sup>	4.921 in	1.46 in	30-305 psi	Air	UV
6 NPS	10 NPS	19.022 in <sup>2</sup>	4.921 in	1.46 in	30-305 psi	Steam	UV

Design Name: 901/902/911/912 (1" liquid)		NBCert #	08020
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/12/2028
Design Type			
[Relief Valve] 901/902/911/912 (1" liquid) Capacity Tests: Sec. UV at National Board Testing Lab on August 24, 2001 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 14.410 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Opening Pressure Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: ARI-Armaturen Albert Richter GmbH & Co. KG {ARI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5, 2.0 NPS	0.617 in²	0.886 in	0.22 in	15-493 psi	Water	UV
Design Name: 901/902/911/912 (Liquids)							
NBCert #				08019			
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			12/12/2029	
Design Type							
[Relief Valve] 901/902/911/912 (Liquids) Capacity Tests: Sec. UV at National Board Testing Lab on October 15, 2001 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.545 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Opening Pressure Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: ARI-Armaturen Albert Richter GmbH & Co. KG {ARI}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	15-493 psi	Water	UV
1.5 NPS	2, 2.5 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	15-493 psi	Water	UV
1.5 NPS	2.5, 3 NPS	1.578 in <sup>2</sup>	1.417 in	0.37 in	15-493 psi	Water	UV
2 NPS	3 NPS	2.465 in <sup>2</sup>	1.772 in	0.45 in	15-493 psi	Water	UV
2.5-3 NPS	4 NPS	4.166 in <sup>2</sup>	2.303 in	0.61 in	15-406 psi	Water	UV
4 NPS	6 NPS	9.861 in <sup>2</sup>	3.543 in	0.98 in	15-276 psi	Water	UV
5-6 NPS	8 NPS	13.678 in <sup>2</sup>	4.173 in	1.34 in	15-392 psi	Water	UV
6 NPS	10 NPS	19.022 in <sup>2</sup>	4.921 in	1.46 in	15-305 psi	Water	UV

Design Name: 901/902/911/912 {15-30}		NBCert # 08031
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/29/2029
Design Type		
<p>[Safety Relief Valve] 901/902/911/912 {15-30}</p> <p>Capacity Tests: Sec. UV at National Board Testing Lab on May 9, 2007</p> <p>Method of Establishing Relieving Capacity: Flow Capacity, K</p> <p>Certified Value: 0.769 Unitless</p> <p>Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam</p> <p>Set Pressure Definition: Initial Audible Discharge</p> <p>Blowdown Characteristics: Fixed</p> <p>Flow Area Configuration: Nozzle/Full Lift</p> <p>Designed by: ARI-Armaturen Albert Richter GmbH &amp; Co. KG {ARI}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5, 2.0 NPS	0.394 in <sup>2</sup>	0.709 in	0.205 in	15-30 psi	Air	UV
1 NPS	1.5, 2.0 NPS	0.394 in <sup>2</sup>	0.709 in	0.205 in	15-30 psi	Steam	UV
1.25 NPS	2.0 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	15-30 psi	Air	UV
1.25 NPS	2.0 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	15-30 psi	Steam	UV
1.5 NPS	2, 2.5 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	15-30 psi	Air	UV

1.5 NPS	2, 2.5 NPS	1.024 in <sup>2</sup>	1.142 in	0.29 in	15-30 psi	Steam	UV
1.5 NPS	2.5, 3.0 NPS	1.578 in <sup>2</sup>	1.417 in	0.37 in	15-30 psi	Air	UV
1.5 NPS	2.5, 3.0 NPS	1.578 in <sup>2</sup>	1.417 in	0.37 in	15-30 psi	Steam	UV
2 NPS	3 NPS	2.465 in <sup>2</sup>	1.772 in	0.45 in	15-30 psi	Air	UV
2 NPS	3 NPS	2.465 in <sup>2</sup>	1.772 in	0.45 in	15-30 psi	Steam	UV
2.5-3 NPS	4 NPS	4.166 in <sup>2</sup>	2.303 in	0.61 in	15-30 psi	Air	UV
2.5-3 NPS	4 NPS	4.166 in <sup>2</sup>	2.303 in	0.61 in	15-30 psi	Steam	UV
4 NPS	6 NPS	9.861 in <sup>2</sup>	3.543 in	0.98 in	15-30 psi	Air	UV
4 NPS	6 NPS	9.861 in <sup>2</sup>	3.543 in	0.98 in	15-30 psi	Steam	UV
5-6 NPS	8 NPS	13.678 in <sup>2</sup>	4.173 in	1.34 in	15-30 psi	Air	UV
5-6 NPS	8 NPS	13.678 in <sup>2</sup>	4.173 in	1.34 in	15-30 psi	Steam	UV
6 NPS	10 NPS	19.022 in <sup>2</sup>	4.921 in	1.46 in	15-30 psi	Air	UV
6 NPS	10 NPS	19.022 in <sup>2</sup>	4.921 in	1.46 in	15-30 psi	Steam	UV

Design Name:	Reyco R, RB, RO, RBO (Fig. 971, 973, 974) (liquid)	NBCert #	73011
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/15/2029

Design Type
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[Relief Valve] Reyco R, RB, RO, RBO (Fig. 971, 973, 974) (liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 27, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.724 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 2.5, 3 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.12 in	15-6250 psi	Water	UV
1-1.5 NPS	2, 2.5, 3 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.16 in	15-6250 psi	Water	UV
1.5 NPS	2 - 3 NPS	0.34 in <sup>2</sup>	[F] 0.658 in	0.2 in	15-6250 psi	Water	UV
1.5-2 NPS	2.5, 3 NPS	0.558 in <sup>2</sup>	[G] 0.843 in	0.26 in	15-4905 psi	Water	UV
1.5-2 NPS	3 NPS	0.869 in <sup>2</sup>	[H] 1.052 in	0.32 in	15-3300 psi	Water	UV
2-3 NPS	3, 4 NPS	1.427 in <sup>2</sup>	[J] 1.348 in	0.41 in	15-3300 psi	Water	UV
3 NPS	4, 6 NPS	2.036 in <sup>2</sup>	[K] 1.61 in	0.49 in	15-3300 psi	Water	UV
3-4 NPS	4, 6 NPS	3.16 in <sup>2</sup>	[L] 2.006 in	0.61 in	15-2900 psi	Water	UV
4 NPS	6 NPS	3.987 in <sup>2</sup>	[M] 2.253 in	0.69 in	15-1600 psi	Water	UV
4 NPS	6 NPS	4.807 in <sup>2</sup>	[N] 2.474 in	0.75 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P] 3 in	0.92 in	15-1600 psi	Water	UV
6 NPS	8 NPS	12.24 in <sup>2</sup>	[Q] 3.948 in	1.2 in	15-925 psi	Water	UV
6 NPS	8, 10 NPS	17.72 in <sup>2</sup>	[R] 4.75 in	1.45 in	15-350 psi	Water	UV
8 NPS	10 NPS	29.75 in <sup>2</sup>	[T] 6.155 in	1.84 in	15-325 psi	Water	UV



Design Name:	RL-14 & RLO-14 (0.315 in. orifice)	NBCert #	73044
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/26/2029

#### Design Type

[Safety Relief Valve] RL-14 & RLO-14 (0.315 in. orifice)  
Capacity Tests: Sec. UV at National Board Testing Lab on June 8, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.230 SCFM/PSIA; (alternate medium): 3.460 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.078 in <sup>2</sup>	0.315 in	0.078 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.078 in <sup>2</sup>	0.315 in	0.078 in	15-5000 psi	Air	UV

Design Name:	RL-14 & RLO-14 (0.315 in. orifice) (Liquids)	NBCert #	73055
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/26/2029

#### Design Type

[Relief Valve] RL-14 & RLO-14 (0.315 in. orifice) (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on June 4, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.880 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.078 in <sup>2</sup>	0.315 in	0.078 in	15-5000 psi	Water	UV

Design Name:	RL14 & RLO14 (0.394 in. orifice)	NBCert #	73202
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/26/2029

#### Design Type

[Safety Relief Valve] RL14 & RLO14 (0.394 in. orifice)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 30, 2014  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.637 SCFM/PSIA; (alternate medium): 4.600 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.122 in <sup>2</sup>	0.394 in	0.0985 in	15-2900 psi	Steam	UV

0.5-1 NPS	1 NPS	0.122 in²	0.394 in	0.0985 in	15-5000 psi	Air	UV
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	07/26/2029
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[Relief Valve] RL14 & RLO14 (0.394 in. orifice) (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 30, 2014  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.021 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.122 in²	0.394 in	0.0985 in	15-5000 psi	Water	UV

Design Name:	RL40, RL040 (0.847 in. orifice) (liquid)	NBCert #	73178
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	07/26/2029
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Design Type

[Relief Valve] RL40, RL040 (0.847 in. orifice) (liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on November 3, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 13.050 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.563 in²	0.847 in		15-1500 psi	Water	UV

Design Name:	RL40, RLO40, RL41, RLO41 (0.44 in. orifice)	NBCert #	73145
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	07/26/2029
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[Safety Relief Valve] RL40, RLO40, RL41, RLO41 (0.44 in. orifice)  
Capacity Tests: Sec. UV at National Board Testing Lab on June 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.860 SCFM/PSIA; (alternate medium): 5.230 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1-2 NPS	0.152 in²	[ ] 0.44 in	0.365 in	15-2900 psi	Steam	UV

0.75-1 NPS	1-2 NPS	0.152 in <sup>2</sup>	[ ] 0.44 in	0.365 in	15-5000 psi	Air	UV
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Design Name:	RL40, RLO40, RL41, RLO41 (0.44 in. orifice) (Liquids)		NBCert #	73156	
Manufacturer/Assembler			Designators		Expiration Date
Manufacturer			UV		07/26/2029
Design Type					
[Relief Valve] RL40, RLO40, RL41, RLO41 (0.44 in. orifice) (Liquids) Capacity Tests: Sec. UV at National Board Testing Lab on July 26, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.684 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: ARI - Armaturen USA, LP {TAR}					

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1-2 NPS	0.152 in <sup>2</sup>	0.44 in		15-5000 psi	Water	UV

Design Name:	RL40, RLO40, RL41, RLO41 (0.547 in. orifice) (Liquid), Design Rev. A		NBCert #	73235	
Manufacturer/Assembler			Designators		Expiration Date
Manufacturer			UV		07/26/2029
Design Type					
[Relief Valve] RL40, RLO40, RL41, RLO41 (0.547 in. orifice) (Liquid), Design Rev. A					
Capacity Tests: Sec. UV at National Board Testing Lab on March 4, 2014					
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method					
Certified Value: 5.635 GPM/SQ.RT. PSID					
Media - Test: Liquid; Certified: Liquid					
Set Pressure Definition: First Steady Stream					
Blowdown Characteristics: Fixed					
Flow Area Configuration: Nozzle/Full Lift					
Designed by: ARI - Armaturen USA, LP {TAR}					

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	1.5, 2 NPS	0.235 in <sup>2</sup>	0.547 in	0.137 in	15-3000 psi	Water	UV

Atlantic Valve Services LLC (AGN)

Swedesboro, NJ 08085United States

This Company Manufactures or Assembles:

Design Name:		JLT-JOS/JLT-JBS/JLT-JDS (Liquids)		NBCert #	15095
Manufacturer/Assembler			Designators		Expiration Date
Assembler			UV		01/10/2026

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

**AVP Valve, Inc. (AVP)**

Nameplate Abbreviation: AVP Valve, Inc.

Lakeland, FL 33813United States

**This Company Manufactures or Assembles:**

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	07/31/2030	

**Design Type**

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	19000 Series, Liquid	NBCert #	18717
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	06/14/2027	

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 3900 (39PV, 39MV pilots)

NBCert #

18447

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/15/2027

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV

1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV

6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid) NBCert # 18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/16/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV



2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## AWC, Inc. (ACI)

Corpus Christi, TX 78409United States

### This Company Manufactures or Assembles:

Design Name: 2600 & 2600S		NBCert #	57057
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	10/03/2029	
Design Type			
[Safety Relief Valve] 2600 & 2600S Capacity Tests: Sec. UV at unknown lab on June 11, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV

1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)	NBCert # 57260
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	10/03/2029
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#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV
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Design Name: 2600L (Liquids)		NBCert # 57068
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/03/2029
Design Type		
<div>[Relief Valve] 2600L (Liquids) Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.652 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S		NBCert # 57237
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/03/2029
Design Type		
<p>[Safety Relief Valve] 2700, 2700S, 3700, 3700S Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	10/03/2029
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#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800L, PCL, PCM pilots				NBCert # 57215			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		10/03/2029		
Design Type							
[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.782 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in²	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in²	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in²	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in²	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in²	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in²	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in²	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in²	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in²	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in²	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in²	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in²	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in²	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

Design Name: 4200 / 4400		NBCert # 57282
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	10/03/2029
Design Type		
<p>[Safety Valve] 4200 / 4400 Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.872 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

Design Name: 6400/6600 (previously 2500 & 4600) NBCert # 57046

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	10/03/2029

#### Design Type

[Safety Valve] 6400/6600 (previously 2500 & 4600)  
Capacity Tests: Sec. UV, V at Ohio State University (Robinson Laboratory) on January 28, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	V
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	V
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	V
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Steam	V
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Steam	V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Steam	V

2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Steam	UV
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Air	UV
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Steam	V
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Steam	V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Steam	UV
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Air	UV
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Steam	V
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Steam	UV
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Air	UV
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Steam	V
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Steam	V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Steam	UV
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Air	UV
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Steam	V
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Steam	V
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Steam	UV

## AWC, Inc. (INP)

Port Arthur, TX 77640United States

### This Company Manufactures or Assembles:

Design Name: 2600L (Liquids)		NBCert #	57068
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	02/27/2030	
Design Type			

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/27/2030

#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800L, PCL, PCM pilots				NBCert # 57215			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		02/27/2030		
Design Type							
[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.782 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in²	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in²	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in²	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in²	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in²	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in²	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in²	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in²	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in²	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in²	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in²	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in²	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in²	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

## AWC, Inc. (ITG)

Deer Park, TX 77536United States

### This Company Manufactures or Assembles:

Design Name: 1890, 1892, 1895, 1896			NBCert # 57013	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		06/09/2027

**Design Type**

[Safety Relief Valve] 1890, 1892, 1895, 1896  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 4.410 PPH/PSIA; (alternate medium): 1.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.094 in	15-800 psi	Air	UV
0.5-0.75 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.094 in	15-800 psi	Air	NV
0.5-0.75 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.094 in	15-800 psi	Steam	UV
0.5-0.75 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.094 in	15-800 psi	Steam	NV

Design Name: 1890L, 1892L, 1895L, 1896L (Liquids) NBCert # 57192

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

06/09/2027

**Design Type**

[Relief Valve] 1890L, 1892L, 1895L, 1896L (Liquids)  
Capacity Tests: Sec. UV at unknown lab on January 14, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.210 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	3/4, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.08 in	15-800 psi	Water	UV

Design Name: 2600 Series Restricted Lift version of Cert Number 57057 NBCert # 57406

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

06/09/2027

**Design Type**

[Safety Relief Valve] 2600 Series Restricted Lift version of Cert Number 57057  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 10, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Steam	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV

1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Steam	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Steam	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Air	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Steam	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Air	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Steam	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Air	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Steam	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Air	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Steam	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Air	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Steam	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Air	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Steam	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Air	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Steam	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Air	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Steam	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Air	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Steam	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Air	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Steam	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Air	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Steam	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Air	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Steam	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Air	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Steam	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Air	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Steam	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Air	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Steam	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Air	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Steam	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Air	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Steam	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Air	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Steam	UV

Design Name:	2600L (Air & Steam) Series Restricted Lift version of Cert Number 57260	NBCert #	57439
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/20/2027
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#### Design Type

[Safety Relief Valve] 2600L (Air & Steam) Series Restricted Lift version of Cert Number 57260  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 6, 2018  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-2900 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.089 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.089 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.111 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.111 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.142 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.142 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.169 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.169 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.211 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.211 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.237 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.237 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.26 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.26 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.315 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.315 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.415 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.415 in	15-2000 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	0.5 in	15-1500 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	0.5 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	0.638 in	15-1000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	0.638 in	15-1000 psi	Steam	UV
8 NPS	10 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	0.665 in	15-300 psi	Air	UV

8 NPS	10 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	0.665 in	15-300 psi	Steam	UV
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Design Name:	2600L (Liquids)	NBCert #	57068
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 06/28/2030

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2600L (Liquids) Series Restricted Lift version of Cert Number 57068.	NBCert #	57417
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 06/09/2027

#### Design Type

[Safety Relief Valve] 2600L (Liquids) Series Restricted Lift version of Cert Number 57068.  
Capacity Tests: Sec. UV, V at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on January 23, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Water	UV, V
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-6000 psi	Water	UV, V
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-5000 psi	Water	UV, V
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.098 in	15-3600 psi	Water	UV, V
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.122 in	15-2750 psi	Water	UV, V
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.156 in	15-2700 psi	Water	UV, V
3 in	4, 6 in	2.041 in <sup>2</sup>	[K] 1.612 in	0.187 in	15-2200 psi	Water	UV, V
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.232 in	15-1500 psi	Water	UV, V
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.261 in	15-1100 psi	Water	UV, V
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.287 in	15-1000 psi	Water	UV, V
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.348 in	15-1000 psi	Water	UV, V
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.458 in	15-900 psi	Water	UV, V
6-8 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.551 in	15-600 psi	Water	UV, V
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.702 in	15-300 psi	Water	UV, V
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.741 in	15-300 psi	Water	UV, V

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/28/2030

Design Type
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[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name:	3800L, PCL, PCM pilots	NBCert #	57215
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/28/2030

Design Type
[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.782 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

<b>Baird Valve and Regulator, LLC (BRD)</b>	Nameplate Abbreviation: BAIRD
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Tulsa, OK 74103United States

#### This Company Manufactures or Assembles:

Design Name:	7100-2 G/GS	NBCert #	04048
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/31/2029



**Design Type**

[Safety Relief Valve] 7100-2 G/GS  
Capacity Tests: Sec. UV at unknown lab on December 4, 1971  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.970 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Baird Valve and Regulator, LLC {BRD}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	0.442 in <sup>2</sup>	0.75 in	0.218 in	20-600 psi	Air	UV

Design Name:	731-1 G/GS	NBCert #	04004
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

08/29/2029

**Design Type**

[Safety Relief Valve] 731-1 G/GS  
Capacity Tests: Sec. UV at unknown lab on October 10, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.963 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Baird Valve and Regulator, LLC {BRD}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.066 in <sup>2</sup>	0.456 in	0.125 in	25-2500 psi	Air	UV

**Baker Hughes Solutions (Singapore) Pte. Ltd. (DSP)**

Nameplate Abbreviation: BHSS

Singapore, 628631Singapore

**This Company Manufactures or Assembles:**

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

10/03/2025

**Design Type**

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/07/2027

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/25/2030

#### Design Type

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV

3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

03/25/2030

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 19110M & 19110H (Liquids)

NBCert #

19077

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

05/26/2027

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
 Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 2.264 GPM/SQ. RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 2900 (39PV & 39MV pilots - Liquid) NBCert # 18874

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/17/2026

**Design Type**

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)  
 Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.670 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name: 2900 (39PV & 39MV pilots)	NBCert # 18863
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	12/17/2026
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#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV

8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots)

NBCert #

18447

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

11/17/2027

### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV

2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler

Designators

Expiration Date

Manufacturer

UV

11/17/2027

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.743 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV



8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

BAPTEEC LTD (BAP)

Beijing, 100176People's Republic of China

This Company Manufactures or Assembles:

Design Name: HT Series (Liquid)		NBCert #	12429
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/13/2026
Design Type			
[Safety Relief Valve] HT Series (Liquid) Capacity Tests: Sec. UV at National Board Testing Lab on May 20, 2014 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.751 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: BAPTEEC LTD {BAP}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.4134 in	0.124 in	15-6000 psi	Water	UV
1-1.5 NPS	2-3 NPS	0.239 in <sup>2</sup>	[E] 0.5512 in	0.165 in	15-6000 psi	Water	UV
1.5-1.5 NPS	2-3 NPS	0.352 in <sup>2</sup>	[F] 0.6693 in	0.201 in	15-5000 psi	Water	UV
1.5-2 NPS	2.5-3 NPS	0.589 in <sup>2</sup>	[G] 0.8661 in	0.26 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.319 in	15-2750 psi	Water	UV
2-3 NPS	3-4 NPS	1.448 in <sup>2</sup>	[J] 1.358 in	0.407 in	15-2700 psi	Water	UV
3-3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.49 in	15-2220 psi	Water	UV
3-4 NPS	4-6 NPS	3.23 in <sup>2</sup>	[L] 2.028 in	0.608 in	15-1500 psi	Water	UV
4-4 NPS	6 NPS	4.097 in <sup>2</sup>	[M] 2.284 in	0.685 in	15-1100 psi	Water	UV
4-4 NPS	6 NPS	4.988 in <sup>2</sup>	[N] 2.52 in	0.756 in	15-1000 psi	Water	UV
4-4 NPS	6 NPS	7.22 in <sup>2</sup>	[P] 3.032 in	0.909 in	15-1000 psi	Water	UV
6-6 NPS	8 NPS	12.667 in <sup>2</sup>	[Q] 4.016 in	1.206 in	15-600 psi	Water	UV
6-6 NPS	8-10 NPS	18.118 in <sup>2</sup>	[R] 4.803 in	1.441 in	15-600 psi	Water	UV
8-8 NPS	10 NPS	29.628 in <sup>2</sup>	[T] 6.142 in	1.843 in	15-600 psi	Water	UV
10-10 NPS	14 NPS	43.943 in <sup>2</sup>	[V] 7.48 in	2.244 in	15-500 psi	Water	UV
12-12 NPS	16 NPS	61.626 in <sup>2</sup>	[W] 8.858 in	2.658 in	15-500 psi	Water	UV
14-14 NPS	18 NPS	82.291 in <sup>2</sup>	[Y] 10.236 in	3.071 in	15-145 psi	Water	UV
16-16 NPS	18 NPS	95.448 in <sup>2</sup>	[Z] 11.024 in	3.307 in	15-145 psi	Water	UV
16-16 NPS	20 NPS	109.563 in <sup>2</sup>	[Z1] 11.811 in	3.543 in	15-145 psi	Water	UV

18-18 NPS	24 NPS	140.732 in <sup>2</sup>	[AA] 13.386 in	4.016 in	15-145 psi	Water	UV
20-20 NPS	24 NPS	166.66 in <sup>2</sup>	[BB] 14.567 in	4.37 in	15-145 psi	Water	UV

Design Name: HTBPO		NBCert #	12463
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	05/17/2029
Design Type			
[Buckling Pin Non-reclosing Device] HTBPO			
Capacity Tests: Sec. UD at National Board Testing Lab on November 1, 2016			
Method of Establishing Relieving Capacity: Flow Capacity, K			
Certified Value: 0.790 Unitless			
Media - Test: Air/Gas; Certified: Air/Gas			
Set Pressure Definition: Buckling Pressure			
Flow Area Configuration: Nozzle/Full Lift			
Designed by: BAPTEEC LTD {BAP}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	2 NPS	0.77 in <sup>2</sup>	0.99 in	0.81 in	50-1480 psi	Air	UD
1.5 NPS	2, 3 NPS	1.89 in <sup>2</sup>	1.55 in	0.98 in	15-1480 psi	Air	UD
2 NPS	3 NPS	2.92 in <sup>2</sup>	1.93 in	1.09 in	15-1480 psi	Air	UD
3 NPS	4 NPS	7.63 in <sup>2</sup>	3.12 in	1.45 in	15-1480 psi	Air	UD
4 NPS	6 NPS	11.74 in <sup>2</sup>	3.87 in	1.67 in	15-1480 psi	Air	UD
6 NPS	8 NPS	27.03 in <sup>2</sup>	5.87 in	2.27 in	15-1480 psi	Air	UD
8 NPS	10 NPS	45.52 in <sup>2</sup>	7.61 in	2.8 in	15-1480 psi	Air	UD
10 NPS	12 NPS	72.58 in <sup>2</sup>	9.61 in	3.4 in	15-1480 psi	Air	UD
12 NPS	14 NPS	101.42 in <sup>2</sup>	11.36 in	3.92 in	15-1480 psi	Air	UD
14 NPS	16 NPS	140.26 in <sup>2</sup>	13.36 in	4.52 in	15-740 psi	Air	UD
16 NPS	18 NPS	185.38 in <sup>2</sup>	15.36 in	5.12 in	15-740 psi	Air	UD
18 NPS	20 NPS	239.55 in <sup>2</sup>	17.46 in	5.75 in	15-740 psi	Air	UD
20 NPS	24 NPS	297.55 in <sup>2</sup>	19.46 in	6.35 in	15-285 psi	Air	UD
24 NPS	30 NPS	431.87 in <sup>2</sup>	23.44 in	7.55 in	15-285 psi	Air	UD
26 NPS	32 NPS	508.68 in <sup>2</sup>	25.44 in	8.15 in	15-285 psi	Air	UD
28 NPS	34 NPS	554.34 in <sup>2</sup>	26.57 in	8.48 in	15-285 psi	Air	UD
30 NPS	36 NPS	633.72 in <sup>2</sup>	28.41 in	9.03 in	15-285 psi	Air	UD

Design Name: HTBP-R (12" to 78" NPS)		NBCert #	12531
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	09/17/2025
Design Type			
[Buckling Pin Non-reclosing Device] HTBP-R (12" to 78" NPS) Capacity Tests: Sec. UD at National Board Testing Lab on March 27, 2019 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 1.850 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Buckling Pressure Flow Area Configuration: MNFA Designed by: BAPTEEC LTD {BAP}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
12 NPS		69.499 in <sup>2</sup>			0.5-2250 psi		UD
14 NPS		87.582 in <sup>2</sup>			0.5-2250 psi		UD
16 NPS		131.194 in <sup>2</sup>			0.5-2250 psi		UD
18 NPS		159.002 in <sup>2</sup>			0.5-2250 psi		UD
20 NPS		203.962 in <sup>2</sup>			0.5-2250 psi		UD
24 NPS		300.948 in <sup>2</sup>			0.5-2250 psi		UD
26 NPS		346.158 in <sup>2</sup>			0.5-1440 psi		UD
28 NPS		409.581 in <sup>2</sup>			0.5-1440 psi		UD
30 NPS		471.939 in <sup>2</sup>			0.5-1440 psi		UD
32 NPS		538.459 in <sup>2</sup>			0.5-1440 psi		UD
34 NPS		616.345 in <sup>2</sup>			0.5-1440 psi		UD
36 NPS		695.963 in <sup>2</sup>			0.5-1440 psi		UD
38 NPS		766.379 in <sup>2</sup>			0.5-1440 psi		UD
40 NPS		838.094 in <sup>2</sup>			0.5-1440 psi		UD
42 NPS		939.041 in <sup>2</sup>			0.5-1440 psi		UD
44 NPS		1045.61 in <sup>2</sup>			0.5-1440 psi		UD
46 NPS		1157.81 in <sup>2</sup>			0.5-1440 psi		UD
48 NPS		1249.77 in <sup>2</sup>			0.5-1440 psi		UD
50 NPS		1368.57 in <sup>2</sup>			0.5-720 psi		UD
52 NPS		1500.77 in <sup>2</sup>			0.5-720 psi		UD
54 NPS		1618.93 in <sup>2</sup>			0.5-720 psi		UD
56 NPS		1745.04 in <sup>2</sup>			0.5-720 psi		UD
58 NPS		1887.79 in <sup>2</sup>			0.5-720 psi		UD
60 NPS		2001.59 in <sup>2</sup>			0.5-720 psi		UD
64 NPS		2276.45 in <sup>2</sup>			0.5-720 psi		UD
68 NPS		2559.78 in <sup>2</sup>			0.5-720 psi		UD
72 NPS		2880.38 in <sup>2</sup>			0.5-720 psi		UD
78 NPS		3167.95 in <sup>2</sup>			0.5-720 psi		UD

Design Name:	HTBP-R (2" to 10" NPS)	NBCert #	12496
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	05/24/2027
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#### Design Type

[Buckling Pin Non-reclosing Device] HTBP-R (2" to 10" NPS)  
Capacity Tests: Sec. UD at National Board Testing Lab on March 27, 2019  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 12.130 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: MNFA  
Designed by: BAPTEEC LTD {BAP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		47.584 mm <sup>2</sup>			0.5-2250 psi		UD
2 NPS		1.002 in <sup>2</sup>			0.5-2250 psi		UD
2.5 NPS		1.423 in <sup>2</sup>			0.5-2250 psi		UD
3 NPS		2.811 in <sup>2</sup>			0.5-2250 psi		UD
4 NPS		5.064 in <sup>2</sup>			0.5-2250 psi		UD
6 NPS		15.029 in <sup>2</sup>			0.5-2250 psi		UD
8 NPS		28.586 in <sup>2</sup>			0.5-2250 psi		UD

Design Name: HTPBX NBCert # 12474

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 05/17/2029

#### Design Type

[Buckling Pin Non-reclosing Device] HTPBX  
Capacity Tests: Sec. UD at National Board Testing Lab on November 1, 2016  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.860 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: BAPTEEC LTD {BAP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	4 NPS	11.74 in <sup>2</sup>	3.87 in	2.87 in	15-720 psi	Air	UD
6 NPS	6 NPS	27.03 in <sup>2</sup>	5.87 in	4.06 in	5-720 psi	Air	UD
8 NPS	8 NPS	45.52 in <sup>2</sup>	7.61 in	5.24 in	5-720 psi	Air	UD
10 NPS	10 NPS	72.58 in <sup>2</sup>	9.61 in	6.42 in	5-720 psi	Air	UD
12 NPS	12 NPS	101.42 in <sup>2</sup>	11.36 in	7.6 in	5-720 psi	Air	UD
14 NPS	14 NPS	140.26 in <sup>2</sup>	13.36 in	8.78 in	5-720 psi	Air	UD
16 NPS	16 NPS	185.38 in <sup>2</sup>	15.36 in	9.96 in	5-720 psi	Air	UD
18 NPS	18 NPS	239.55 in <sup>2</sup>	17.46 in	11.14 in	5-720 psi	Air	UD
20 NPS	20 NPS	297.55 in <sup>2</sup>	19.46 in	12.32 in	5-720 psi	Air	UD
24 NPS	24 NPS	431.87 in <sup>2</sup>	23.44 in	14.69 in	5-720 psi	Air	UD
26 NPS	26 NPS	508.65 in <sup>2</sup>	25.44 in	15.87 in	5-720 psi	Air	UD
28 NPS	28 NPS	554.34 in <sup>2</sup>	26.57 in	17.05 in	5-720 psi	Air	UD
30 NPS	30 NPS	631.08 in <sup>2</sup>	28.35 in	18.23 in	5-145 psi	Air	UD
32 NPS	32 NPS	722.53 in <sup>2</sup>	30.33 in	19.41 in	5-145 psi	Air	UD
34 NPS	34 NPS	813.97 in <sup>2</sup>	32.19 in	20.59 in	5-145 psi	Air	UD
36 NPS	36 NPS	912.55 in <sup>2</sup>	34.09 in	21.77 in	5-145 psi	Air	UD
38 NPS	38 NPS	1014.65 in <sup>2</sup>	35.94 in	22.95 in	5-145 psi	Air	UD
40 NPS	40 NPS	1126.61 in <sup>2</sup>	37.87 in	24.13 in	5-145 psi	Air	UD
42 NPS	42 NPS	1249.84 in <sup>2</sup>	39.89 in	25.31 in	5-145 psi	Air	UD
44 NPS	44 NPS	1366.03 in <sup>2</sup>	41.7 in	26.5 in	5-145 psi	Air	UD

46 NPS	46 NPS	1469.14 in²	43.65 in	27.68 in	5-145 psi	Air	UD
48 NPS	48 NPS	1632.45 in²	45.59 in	28.86 in	5-145 psi	Air	UD

Design Name:	HTXD Series	NBCert #	12441
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 05/24/2027

Design Type
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[Pilot Operated Pressure Relief Valve] HTXD Series  
Capacity Tests: Sec. UV at National Board Testing Lab on June 30, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.853 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: BAPTEEC LTD {BAP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.134 in²	[D] 0.4134 in	0.165 in	30-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.239 in²	[E] 0.5512 in	0.22 in	30-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.373 in²	[F] 0.689 in	0.276 in	30-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.616 in²	[G] 0.8858 in	0.355 in	30-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.954 in²	[H] 1.1024 in	0.441 in	30-6170 psi	Air	UV
2-3 NPS	3, 4 NPS	1.578 in²	[J] 1.4173 in	0.567 in	30-4620 psi	Air	UV
3 NPS	4 NPS	2.251 in²	[K] 1.6929 in	0.677 in	30-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.484 in²	[L] 2.1063 in	0.843 in	30-3705 psi	Air	UV
4 NPS	6 NPS	4.383 in²	[M] 2.3622 in	0.945 in	30-3705 psi	Air	UV
4 NPS	6 NPS	5.303 in²	[N] 2.5984 in	1.04 in	30-3705 psi	Air	UV
4 NPS	6 NPS	7.791 in²	[P] 3.1496 in	1.26 in	30-3705 psi	Air	UV
6 NPS	8 NPS	13.421 in²	[Q] 4.1339 in	1.653 in	30-1480 psi	Air	UV
6 NPS	8 NPS	19.327 in²	[R] 4.9606 in	1.984 in	30-1020 psi	Air	UV
8 NPS	10 NPS	30.39 in²	[T] 6.2205 in	2.488 in	30-985 psi	Air	UV
10 NPS	14 NPS	43.943 in²	[V] 7.48 in	2.992 in	30-765 psi	Air	UV
12 NPS	16 NPS	61.626 in²	[W] 8.858 in	3.543 in	30-765 psi	Air	UV
14 NPS	18 NPS	82.291 in²	[Y] 10.236 in	4.095 in	30-765 psi	Air	UV
16 NPS	18 NPS	95.448 in²	[Z] 11.024 in	4.409 in	30-765 psi	Air	UV
16 NPS	20 NPS	109.563 in²	[Z1] 11.811 in	4.724 in	30-765 psi	Air	UV
18 NPS	24 NPS	140.732 in²	[AA] 13.386 in	5.355 in	30-765 psi	Air	UV
20 NPS	24 NPS	166.66 in²	[BB] 14.567 in	5.827 in	30-765 psi	Air	UV

Design Name:	HTXD Series (Liquid)	NBCert #	12430
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 11/13/2026

**Design Type**

[Pilot Operated Pressure Relief Valve] HTXD Series (Liquid)  
 Capacity Tests: Sec. UV at National Board Testing Lab on May 21, 2014  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.763 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: BAPTEEC LTD {BAP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.134 in <sup>2</sup>	[D] 0.4134 in	0.165 in	30-6170 psi	Water	UV
1-1.5 NPS	2 NPS	0.239 in <sup>2</sup>	[E] 0.5512 in	0.22 in	30-6170 psi	Water	UV
1-1.5 NPS	2 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.276 in	30-6170 psi	Water	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.8858 in	0.355 in	30-6170 psi	Water	UV
1.5-2 NPS	3 NPS	0.954 in <sup>2</sup>	[H] 1.102 in	0.441 in	30-6170 psi	Water	UV
2-3 NPS	3, 4 NPS	1.578 in <sup>2</sup>	[J] 1.4173 in	0.567 in	30-4620 psi	Water	UV
3-3 NPS	4 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.677 in	30-3705 psi	Water	UV
3-4 NPS	4, 6 NPS	3.484 in <sup>2</sup>	[L] 2.1063 in	0.843 in	30-3705 psi	Water	UV
4-4 NPS	6 NPS	4.383 in <sup>2</sup>	[M] 2.3622 in	0.945 in	30-3705 psi	Water	UV
4-4 NPS	6 NPS	5.303 in <sup>2</sup>	[N] 2.5984 in	1.04 in	30-3705 psi	Water	UV
4-4 NPS	6 NPS	7.791 in <sup>2</sup>	[P] 3.1496 in	1.26 in	30-3705 psi	Water	UV
6-6 NPS	8 NPS	13.421 in <sup>2</sup>	[Q] 4.1339 in	1.653 in	30-1480 psi	Water	UV
6-6 NPS	8 NPS	19.327 in <sup>2</sup>	[R] 4.961 in	1.984 in	30-1020 psi	Water	UV
8-8 NPS	10 NPS	30.39 in <sup>2</sup>	[T] 6.2205 in	2.488 in	30-985 psi	Water	UV
10-10 NPS	14 NPS	43.943 in <sup>2</sup>	[V] 7.48 in	2.992 in	30-765 psi	Water	UV
12-12 NPS	16 NPS	61.626 in <sup>2</sup>	[W] 8.858 in	3.543 in	30-765 psi	Water	UV
14-14 NPS	18 NPS	82.291 in <sup>2</sup>	[Y] 10.236 in	4.095 in	30-765 psi	Water	UV
16-16 NPS	18 NPS	95.448 in <sup>2</sup>	[Z] 11.024 in	4.409 in	30-765 psi	Water	UV
16-16 NPS	20 NPS	109.563 in <sup>2</sup>	[Z1] 11.811 in	4.724 in	30-765 psi	Water	UV
18-18 NPS	24 NPS	140.732 in <sup>2</sup>	[AA] 13.386 in	5.355 in	30-765 psi	Water	UV
20-20 NPS	24 NPS	166.66 in <sup>2</sup>	[BB] 14.567 in	5.827 in	30-765 psi	Water	UV

Design Name: HTXO Series

NBCert # 12452

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/24/2027

**Design Type**

[Safety Relief Valve] HTXO Series  
 Capacity Tests: Sec. UV at National Board Testing Lab on June 30, 2015  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 1.823 SCFM/PSIA  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: BAPTEEC LTD {BAP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5-1 NPS	0.122 in²	0.394 in	0.118 in	15-6000 psi	Air	UV
Design Name: HTXO Series (Liquid)			NBCert #		12418		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		11/13/2026		
Design Type							
[Safety Relief Valve] HTXO Series (Liquid) Capacity Tests: Sec. UV at National Board Testing Lab on May 20, 2014 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.300 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: BAPTEEC LTD {BAP}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5-1.0 NPS	0.122 in <sup>2</sup>	0.394 in	0.118 in	15-6000 psi	Water	UV

## Basin Valve Company (BAK)

Bakersfield, CA 93308United States

### This Company Manufactures or Assembles:

Design Name: 2400		NBCert #	57451
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	09/18/2029
Design Type			
[Safety Relief Valve] 2400 Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on August 28, 2019 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.817 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75-1 NPS	0.049 in <sup>2</sup>	[B] 0.25 in	0.08 in	20-2000 psi	Air	UV
0.5-1 NPS	1-2 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.12 in	20-1410 psi	Air	UV
0.75-1 NPS	1-2 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.175 in	20-600 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.295 in	20-4000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.365 in	20-3000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.435 in	20-2500 psi	Air	UV

Design Name: 2600 & 2600S	NBCert # 57057
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/02/2030
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#### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV



8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600 Series Restricted Lift version of Cert Number 57057 NBCert # 57406

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/02/2030

#### Design Type

[Safety Relief Valve] 2600 Series Restricted Lift version of Cert Number 57057

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 10, 2017

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Restricted Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Steam	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Steam	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Steam	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Air	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Steam	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Air	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Steam	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Air	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Steam	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Air	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Steam	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Air	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Steam	UV

4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Air	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Steam	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Air	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Steam	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Air	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Steam	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Air	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Steam	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Air	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Steam	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Air	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Steam	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Air	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Steam	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Air	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Steam	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Air	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Steam	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Air	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Steam	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Air	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Steam	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Air	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Steam	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Air	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

09/18/2029

Design Type
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[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV

1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name:	2600L (Liquids)	NBCert #	57068
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	09/18/2029
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#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V

1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2600L (Liquids) Series Restricted Lift version of Cert Number 57068.	NBCert #	57417
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	09/18/2029	

#### Design Type

[Safety Relief Valve] 2600L (Liquids) Series Restricted Lift version of Cert Number 57068.

Capacity Tests: Sec. UV, V at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on January 23, 2017

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.652 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Restricted Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Water	UV, V
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-6000 psi	Water	UV, V
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-5000 psi	Water	UV, V
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.098 in	15-3600 psi	Water	UV, V
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.122 in	15-2750 psi	Water	UV, V
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.156 in	15-2700 psi	Water	UV, V
3 in	4, 6 in	2.041 in <sup>2</sup>	[K] 1.612 in	0.187 in	15-2200 psi	Water	UV, V
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.232 in	15-1500 psi	Water	UV, V
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.261 in	15-1100 psi	Water	UV, V
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.287 in	15-1000 psi	Water	UV, V
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.348 in	15-1000 psi	Water	UV, V
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.458 in	15-900 psi	Water	UV, V
6-8 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.551 in	15-600 psi	Water	UV, V
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.702 in	15-300 psi	Water	UV, V
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.741 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/18/2029

### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/03/2030

### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800	NBCert # 57024
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/18/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV

3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/18/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV

10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV
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Design Name:	4200 / 4400	NBCert #	57282
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 08/02/2030

#### Design Type

[Safety Valve] 4200 / 4400  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.872 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

## Basin Valve Company (BVS)

Signal Hill, CA 90755United States

### This Company Manufactures or Assembles:

Design Name:	2600 & 2600S	NBCert #	57057
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/17/2028

#### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV

18 NPS	24 NPS	143.1 in²	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in²	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in²	[Z] 15 in	4.5 in	15-750 psi	Steam	UV
Design Name: 2600L (Air & Steam)				NBCert #	57260		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		01/05/2029		
Design Type							
[Safety Relief Valve] 2600L (Air & Steam) Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in²	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in²	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in²	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in²	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in²	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in²	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in²	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in²	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in²	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in²	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in²	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in²	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in²	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in²	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV

8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids) NBCert # 57068

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/05/2029

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S NBCert # 57237

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/17/2028

## Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids)

NBCert #

57248

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/08/2029

## Design Type

[Relief Valve] 2700L, 3700L (Liquids)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.676 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV

0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name:	4200 / 4400	NBCert #	57282
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	V	11/17/2028

#### Design Type

[Safety Valve] 4200 / 4400  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.872 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

#### Beaumont Manufacturing and Distribution Company, LLC (MPV)

Nameplate Abbreviation: BMD

Beaumont, TX 77701 United States

#### This Company Manufactures or Assembles:

Design Name:	RV10	NBCert #	00910
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/03/2028

## Design Type

[Safety Relief Valve] RV10  
Capacity Tests: Sec. UV at National Board Testing Lab on July 6, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.756 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Beaumont Manufacturing and Distribution Company, LLC {MPV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-2 NPS	.75-2 NPS	0.13 in <sup>2</sup>	[D] 0.407 in	0.2 in	15-3000 psi	Air	UV
0.75-2 NPS	.75-2 NPS	0.22 in <sup>2</sup>	[E] 0.529 in	0.23 in	15-2400 psi	Air	UV
1.5-2 NPS	1.5-2.5 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.31 in	15-2400 psi	Air	UV
1.5-2 NPS	1.5- 2.5 NPS	0.478 in <sup>2</sup>	[G] 0.78 in	0.35 in	15-2000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.44 in	15-2000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.44 in <sup>2</sup>	[J] 1.354 in	0.61 in	15-1800 psi	Air	UV
3-3 NPS	3, 4 NPS	2.1 in <sup>2</sup>	[K] 1.635 in	0.72 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.3 in <sup>2</sup>	[L] 2.05 in	0.895 in	15-1250 psi	Air	UV
4-4 NPS	6 NPS	4.1 in <sup>2</sup>	[M] 2.285 in	1.01 in	15-1000 psi	Air	UV
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P] 3 in	1.3 in	15-1000 psi	Air	UV
6 NPS	8 NPS	13.2 in <sup>2</sup>	[Q] 4.1 in	1.77 in	15-600 psi	Air	UV

Design Name: RV10 (Liquid)

NBCert #

02271

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	10/11/2025

## Design Type

[Safety Relief Valve] RV10 (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 11, 2019  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.658 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Beaumont Manufacturing and Distribution Company, LLC {MPV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-2 NPS	.75-2 NPS	0.13 in <sup>2</sup>	[D] 0.407 in	0.2 in	15-3000 psi	Water	UV
0.75-2 NPS	.75-2 NPS	0.22 in <sup>2</sup>	[E] 0.529 in	0.23 in	15-2400 psi	Water	UV
1.5-2 NPS	1.5-2.5 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.31 in	15-2400 psi	Water	UV
1.5-2 NPS	1.5- 2.5 NPS	0.478 in <sup>2</sup>	[G] 0.78 in	0.35 in	15-2000 psi	Water	UV
1.5-2 NPS	2-3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.44 in	15-2000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.44 in <sup>2</sup>	[J] 1.354 in	0.61 in	15-1800 psi	Water	UV
3-3 NPS	3, 4 NPS	2.1 in <sup>2</sup>	[K] 1.635 in	0.72 in	15-1500 psi	Water	UV
3-4 NPS	4, 6 NPS	3.3 in <sup>2</sup>	[L] 2.05 in	0.895 in	15-1250 psi	Water	UV
4-4 NPS	6 NPS	4.1 in <sup>2</sup>	[M] 2.285 in	1.01 in	15-1000 psi	Water	UV
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P] 3 in	1.3 in	15-1000 psi	Water	UV

Bellofram Acquisition Company II (WHI)

Oklahoma City, OK 73149United States

This Company Manufactures or Assembles:

Design Name: P2500		NBCert # 01966	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/25/2028
Design Type			
[Safety Relief Valve] P2500 Capacity Tests: Sec. UV at National Board Testing Lab on February 1, 2021 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.850 Unitless Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Bellofram Acquisition Company II {WHI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.068 in²	[C] 0.295 in	0.074 in	25-2500 psi	Air	UV
0.5-1 NPS	1 NPS	0.125 in²	[D] 0.4 in	0.1 in	25-2500 psi	Air	UV
0.5-2 NPS	1-2 NPS	0.223 in²	[E] 0.534 in	0.134 in	50-2500 psi	Air	UV
1.25-2 NPS	2 NPS	0.354 in²	[F] 0.672 in	0.168 in	15-1600 psi	Air	UV
1.25-2 NPS	2 NPS	0.576 in²	[G] 0.857 in	0.214 in	75-1500 psi	Air	UV

Design Name: P2500 (Liquid)		NBCert # 01977	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	06/29/2027
Design Type			
[Relief Valve] P2500 (Liquid) Capacity Tests: Sec. UV at National Board Testing Lab on February 1, 2021 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.591 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Bellofram Acquisition Company II {WHI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.125 in²	[D] 0.4 in	0.1 in	25-2500 psi	Water	UV
0.5-2 NPS	1-2 NPS	0.223 in²	[E] 0.534 in	0.134 in	50-2500 psi	Water	UV
1.25-2 NPS	2 NPS	0.354 in²	[F] 0.672 in	0.168 in	15-1600 psi	Water	UV
1.25-2 NPS	2 NPS	0.576 in²	[G] 0.857 in	0.214 in	75-1500 psi	Water	UV

## Birmingham Controls, Inc. (LSL)

Cerritos, CA 90703United States

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	02/28/2028	

#### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V



2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV
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Design Name:	1700 & 2700 (Restricted Lift version of Cert. # 18100)	NBCert #	18111
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	07/29/2028
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Design Type
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[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	02/28/2028

### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/04/2028

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/04/2028

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series			NBCert # 18706	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		02/28/2028

## Design Type

[Safety Relief Valve] 19000 Series  
 Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/14/2028

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2

NBCert #

18144

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/04/2028

## Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/04/2028

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 3.256 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/28/2028

#### Design Type

[Safety Relief Valve] 1900-DM  
 Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
 Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
 Set Pressure Definition(1): Pop; (2): First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/28/2028

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E

NBCert #

19099

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/20/2028

#### Design Type

[Safety Relief Valve] 1900-DM-E

Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/04/2028

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/28/2028

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/04/2028

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
 Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 2.264 GPM/SQ. RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 3900-TM (39PV, 39MV pilots) NBCert # 01438

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/09/2030

**Design Type**

[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)  
 Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
 Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV

2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV

8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Bliss Anand Private Limited (BLS)

Nameplate Abbreviation: Bliss Anand  
PVT. LTD. India

Bawal, Haryana, 123501India

### This Company Manufactures or Assembles:

Design Name: 2600 & 2600S		NBCert # 57057
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/29/2026
Design Type		
[Safety Relief Valve] 2600 & 2600S Capacity Tests: Sec. UV at unknown lab on June 11, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV

3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

03/10/2026

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV

1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids)	NBCert # 57068
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	04/03/2026
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#### Design Type

[Relief Valve] 2600L (Liquids)  
 Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.652 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V

1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S

NBCert #

57237

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

04/02/2026

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV

2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids) NBCert # 57248

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 04/02/2026

#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 28L Series NBCert # 00987

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/23/2029

#### Design Type

[Relief Valve] 28L Series  
Capacity Tests: Sec. UV at National Board Testing Lab on May 9, 2023  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bliss Anand Private Limited {BLS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.115 in <sup>2</sup>	[D] 0.383 in	0.096 in	15-10000 psi	Water	UV
1-1.5 NPS	2, 3 NPS	0.208 in <sup>2</sup>	[E] 0.514 in	0.129 in	15-10000 psi	Water	UV
1.5 NPS	2, 3 NPS	0.328 in <sup>2</sup>	[F] 0.646 in	0.162 in	15-10000 psi	Water	UV



1.5-2 NPS	3 NPS	0.545 in <sup>2</sup>	[G] 0.833 in	0.208 in	15-7000 psi	Water	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[H] 1.043 in	0.261 in	15-6000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.408 in <sup>2</sup>	[J] 1.339 in	0.335 in	15-6000 psi	Water	UV
3 NPS	4, 6 NPS	2.013 in <sup>2</sup>	[K] 1.601 in	0.4 in	15-5000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.136 in <sup>2</sup>	[L] 1.998 in	0.5 in	15-4000 psi	Water	UV
4 NPS	6 NPS	3.959 in <sup>2</sup>	[M] 2.245 in	0.561 in	15-3000 psi	Water	UV
4 NPS	6 NPS	4.777 in <sup>2</sup>	[N] 2.466 in	0.617 in	15-2500 psi	Water	UV
4 NPS	6 NPS	7.037 in <sup>2</sup>	[P] 2.993 in	0.748 in	15-2000 psi	Water	UV
6 NPS	8 NPS	12.2 in <sup>2</sup>	[Q] 3.941 in	0.985 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	17.686 in <sup>2</sup>	[R] 4.745 in	1.186 in	15-600 psi	Water	UV
8 NPS	10 NPS	28.761 in <sup>2</sup>	[T] 6.051 in	1.513 in	15-500 psi	Water	UV
8-10 NPS	10-12 NPS	30.78 in <sup>2</sup>	[U] 6.26 in	1.565 in	15-300 psi	Water	UV

Design Name: 28L Series (Air,Gas)

NBCert #

00998

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

01/11/2029

#### Design Type

[Safety Relief Valve] 28L Series (Air,Gas)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 21, 2022  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.849 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bliss Anand Private Limited {BLS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.115 in <sup>2</sup>	[D] 0.383 in	0.096 in	15-10000 psi	Air	UV
1-1.5 NPS	2, 3 NPS	0.208 in <sup>2</sup>	[E] 0.514 in	0.129 in	15-10000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.328 in <sup>2</sup>	[F] 0.646 in	0.162 in	15-10000 psi	Air	UV
1.5-2 NPS	3 NPS	0.545 in <sup>2</sup>	[G] 0.833 in	0.208 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[H] 1.043 in	0.261 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.408 in <sup>2</sup>	[J] 1.339 in	0.335 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.013 in <sup>2</sup>	[K] 1.601 in	0.4 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.136 in <sup>2</sup>	[L] 1.998 in	0.5 in	15-4000 psi	Air	UV
4 NPS	6 NPS	3.959 in <sup>2</sup>	[M] 2.245 in	0.561 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.777 in <sup>2</sup>	[N] 2.466 in	0.617 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.037 in <sup>2</sup>	[P] 2.993 in	0.748 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.2 in <sup>2</sup>	[Q] 3.941 in	0.985 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.686 in <sup>2</sup>	[R] 4.745 in	1.186 in	15-600 psi	Air	UV
8 NPS	10 NPS	28.761 in <sup>2</sup>	[T] 6.051 in	1.513 in	15-500 psi	Air	UV
8-10 NPS	10-12 NPS	30.78 in <sup>2</sup>	[U] 6.26 in	1.565 in	15-300 psi	Air	UV

Design Name: 28V Series	NBCert # 00392
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/19/2030

### Design Type

[Safety Relief Valve] 28V Series  
Capacity Tests: Sec. UV at National Board Testing Lab on September 21, 2022  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.850 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bliss Anand Private Limited {BLS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.115 in <sup>2</sup>	[D] 0.383 in	0.096 in	15-10000 psi	Air	UV
1-1.5 NPS	2, 3 NPS	0.208 in <sup>2</sup>	[E] 0.514 in	0.129 in	15-10000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.328 in <sup>2</sup>	[F] 0.646 in	0.162 in	15-10000 psi	Air	UV
1.5-2 NPS	3 NPS	0.545 in <sup>2</sup>	[G] 0.833 in	0.208 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.855 in <sup>2</sup>	[H] 1.043 in	0.261 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.408 in <sup>2</sup>	[J] 1.339 in	0.335 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.013 in <sup>2</sup>	[K] 1.601 in	0.4 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.136 in <sup>2</sup>	[L] 1.998 in	0.5 in	15-4000 psi	Air	UV
4 NPS	6 NPS	3.959 in <sup>2</sup>	[M] 2.245 in	0.561 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.777 in <sup>2</sup>	[N] 2.466 in	0.617 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.037 in <sup>2</sup>	[P] 2.993 in	0.748 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.2 in <sup>2</sup>	[Q] 3.941 in	0.985 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.686 in <sup>2</sup>	[R] 4.745 in	1.186 in	15-600 psi	Air	UV
8 NPS	10 NPS	28.761 in <sup>2</sup>	[T] 6.051 in	1.513 in	15-500 psi	Air	UV
8-10 NPS	10-12 NPS	30.78 in <sup>2</sup>	[U] 6.26 in	1.565 in	15-300 psi	Air	UV
10 NPS	14 NPS	48.945 in <sup>2</sup>	[V] 7.894 in	1.973 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.848 in <sup>2</sup>	[W] 9.016 in	2.254 in	15-1000 psi	Air	UV
16 NPS	18 NPS	104.524 in <sup>2</sup>	[W2] 11.535 in	2.884 in	15-750 psi	Air	UV
16 NPS	20 NPS	114.004 in <sup>2</sup>	[X] 12.047 in	3.012 in	15-750 psi	Air	UV
18 NPS	24 NPS	144.077 in <sup>2</sup>	[Y] 13.543 in	3.386 in	15-750 psi	Air	UV
20 NPS	24 NPS	177.666 in <sup>2</sup>	[Z] 15.039 in	3.76 in	15-750 psi	Air	UV

Design Name: 29L Series	NBCert # 01090
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	10/23/2029

**Design Type**

[Relief Valve] 29L Series  
Capacity Tests: Sec. UV at National Board Testing Lab on May 9, 2023  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.646 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bliss Anand Private Limited {BLS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.071 in <sup>2</sup>	[C] 0.3 in	0.075 in	15-10000 psi	Water	UV
0.5-1 NPS	1 NPS	0.129 in <sup>2</sup>	[D] 0.405 in	0.101 in	15-10000 psi	Water	UV
1 NPS	1.5 NPS	0.227 in <sup>2</sup>	[E] 0.538 in	0.135 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[F] 0.673 in	0.168 in	15-7000 psi	Water	UV

Design Name: 29V Series NBCert # 01078

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/11/2029

**Design Type**

[Safety Relief Valve] 29V Series  
Capacity Tests: Sec. UV at National Board Testing Lab on March 11, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bliss Anand Private Limited {BLS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.071 in <sup>2</sup>	[C] 0.3 in	0.075 in	15-10000 psi	Air	UV
0.5-1 NPS	1 NPS	0.129 in <sup>2</sup>	[D] 0.405 in	0.101 in	15-10000 psi	Air	UV
1 NPS	1.5 NPS	0.227 in <sup>2</sup>	[E] 0.538 in	0.135 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[F] 0.673 in	0.168 in	15-7000 psi	Air	UV

Design Name: 31L Series NBCert # 01180

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

10/23/2029

**Design Type**

[Pilot Operated Pressure Relief Valve] 31L Series  
Capacity Tests: Sec. UV at National Board Testing Lab on January 11, 2023  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.738 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bliss Anand Private Limited {BLS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.156 in <sup>2</sup>	[D] 0.445 in	0.111 in	15-6170 psi	Water	UV
1-1.5 NPS	2 NPS	0.232 in <sup>2</sup>	[E] 0.543 in	0.136 in	15-6170 psi	Water	UV
1-1.5 NPS	2 NPS	0.379 in <sup>2</sup>	[F] 0.695 in	0.174 in	15-6170 psi	Water	UV
1.5-2 NPS	3 NPS	0.57 in <sup>2</sup>	[G] 0.852 in	0.213 in	15-6170 psi	Water	UV
1.5-2 NPS	3 NPS	0.886 in <sup>2</sup>	[H] 1.062 in	0.266 in	15-6170 psi	Water	UV
2-3 NPS	3, 4 NPS	1.449 in <sup>2</sup>	[J] 1.358 in	0.34 in	15-4620 psi	Water	UV
3 NPS	4 NPS	2.061 in <sup>2</sup>	[K] 1.62 in	0.405 in	15-3705 psi	Water	UV
3-4 NPS	4, 6 NPS	3.196 in <sup>2</sup>	[L] 2.017 in	0.504 in	15-3705 psi	Water	UV
4 NPS	6 NPS	4.03 in <sup>2</sup>	[M] 2.265 in	0.566 in	15-3705 psi	Water	UV
4 NPS	6 NPS	4.855 in <sup>2</sup>	[N] 2.486 in	0.622 in	15-3705 psi	Water	UV
4 NPS	6 NPS	7.126 in <sup>2</sup>	[P] 3.012 in	0.753 in	15-3705 psi	Water	UV
6 NPS	8, 8 Dual NPS	12.318 in <sup>2</sup>	[Q] 3.96 in	0.99 in	15-1480 psi	Water	UV
6 NPS	8, 8 Dual NPS	17.842 in <sup>2</sup>	[R] 4.766 in	1.192 in	15-1020 psi	Water	UV
8 NPS	10, 10 Dual NPS	29.018 in <sup>2</sup>	[T] 6.078 in	1.52 in	15-985 psi	Water	UV

Design Name: 31V Series

NBCert # 01168

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/11/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 31V Series  
Capacity Tests: Sec. UV at National Board Testing Lab on June 15, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.857 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bliss Anand Private Limited {BLS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.156 in <sup>2</sup>	[D] 0.445 in	0.111 in	15-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.232 in <sup>2</sup>	[E] 0.543 in	0.136 in	15-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.379 in <sup>2</sup>	[F] 0.695 in	0.174 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.57 in <sup>2</sup>	[G] 0.852 in	0.213 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.886 in <sup>2</sup>	[H] 1.062 in	0.266 in	15-6170 psi	Air	UV
2-3 NPS	3, 4 NPS	1.449 in <sup>2</sup>	[J] 1.358 in	0.34 in	15-4620 psi	Air	UV
3 NPS	4 NPS	2.061 in <sup>2</sup>	[K] 1.62 in	0.405 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.196 in <sup>2</sup>	[L] 2.017 in	0.504 in	15-3705 psi	Air	UV
4 NPS	6 NPS	4.03 in <sup>2</sup>	[M] 2.265 in	0.566 in	15-3705 psi	Air	UV
4 NPS	6 NPS	4.855 in <sup>2</sup>	[N] 2.486 in	0.622 in	15-3705 psi	Air	UV
4 NPS	6 NPS	7.126 in <sup>2</sup>	[P] 3.012 in	0.753 in	15-3705 psi	Air	UV
6 NPS	8, 8 Dual NPS	12.318 in <sup>2</sup>	[Q] 3.96 in	0.99 in	15-1480 psi	Air	UV
6 NPS	8, 8 Dual NPS	17.842 in <sup>2</sup>	[R] 4.766 in	1.192 in	15-1020 psi	Air	UV

8 NPS      10, 10 Dual NPS      29.018 in<sup>2</sup>      [T] 6.078 in      1.52 in      15-985 psi      Air      UV

Design Name:      3800      NBCert #      57024

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/24/2026
Design Type		

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV

8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 04/03/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

**Bopp & Reuther Valves GmbH (BOP)**

Nameplate Abbreviation: Bopp & Reuther

Mannheim, 68305Germany

**This Company Manufactures or Assembles:**

Design Name: Si 25/ Si 63RL (High Press., Restricted lift) NBCert # 72199

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	12/06/2030

#### Design Type

[Safety Relief Valve] Si 25/ Si 63RL (High Press., Restricted lift)  
 Capacity Tests: Sec. NV at National Board Testing Lab on December 6, 2012  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.819 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Restricted Lift  
 Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75, 1.5 NPS	0.175 in <sup>2</sup>	0.472 in	0.08 in	15-4350 psi	Air	NV
0.75 NPS	1, 1.25 NPS	0.312 in <sup>2</sup>	0.63 in	0.08 in	15-4350 psi	Air	NV
1 NPS	1, 1.5, 2 NPS	0.312 in <sup>2</sup>	0.63 in	0.08 in	15-4350 psi	Air	NV
1 NPS	1.5, 2 NPS	0.487 in <sup>2</sup>	0.787 in	0.083 in	15-3625 psi	Air	NV
1.25-1.5 NPS	1.25, 2 NPS	0.487 in <sup>2</sup>	0.787 in	0.083 in	15-3625 psi	Air	NV
1.25-1.5 NPS	1.5, 2 NPS	0.761 in <sup>2</sup>	0.984 in	0.1 in	15-3625 psi	Air	NV
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.13 in	15-3190 psi	Air	NV
2 NPS	2 NPS	1.247 in <sup>2</sup>	1.26 in	0.13 in	15-3190 psi	Air	NV
2-2.5 NPS	3, 4 NPS	1.948 in <sup>2</sup>	1.575 in	0.165 in	15-2900 psi	Air	NV
2.5-3 NPS	4 NPS	3.043 in <sup>2</sup>	1.969 in	0.201 in	15-2320 psi	Air	NV
3 NPS	5 NPS	4.832 in <sup>2</sup>	2.48 in	0.254 in	15-1740 psi	Air	NV
4 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.254 in	15-1740 psi	Air	NV
4 NPS	6 NPS	7.218 in <sup>2</sup>	3.031 in	0.313 in	15-1305 psi	Air	NV
5-6 NPS	8 NPS	10.529 in <sup>2</sup>	3.661 in	0.378 in	15-870 psi	Air	NV

Design Name: Si 25/ Si 63RL (Low Press., Restricted lift) NBCert # 72188

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	12/06/2030

#### Design Type

[Safety Relief Valve] Si 25/ Si 63RL (Low Press., Restricted lift)  
 Capacity Tests: Sec. NV at National Board Testing Lab on December 6, 2012  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.701 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Restricted Lift  
 Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75, 1.5 NPS	0.175 in <sup>2</sup>	0.472 in	0.08 in	6-15 psi	Air	NV
0.75 NPS	1, 1.25 NPS	0.312 in <sup>2</sup>	0.63 in	0.08 in	6-15 psi	Air	NV

1 NPS	1, 1.5, 2 NPS	0.312 in <sup>2</sup>	0.63 in	0.08 in	6-15 psi	Air	NV
1 NPS	1.5, 2 NPS	0.487 in <sup>2</sup>	0.787 in	0.083 in	6-15 psi	Air	NV
1.25-1.5 NPS	1.25, 2 NPS	0.487 in <sup>2</sup>	0.787 in	0.083 in	6-15 psi	Air	NV
1.25-1.5 NPS	1.5, 2 NPS	0.761 in <sup>2</sup>	0.984 in	0.1 in	6-15 psi	Air	NV
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.13 in	6-15 psi	Air	NV
2 NPS	2 NPS	1.247 in <sup>2</sup>	1.26 in	0.13 in	6-15 psi	Air	NV
2-2.5 NPS	3, 4 NPS	1.948 in <sup>2</sup>	1.575 in	0.165 in	6-15 psi	Air	NV
2.5-3 NPS	4 NPS	3.043 in <sup>2</sup>	1.969 in	0.201 in	65-15 psi	Air	NV
3 NPS	5 NPS	4.832 in <sup>2</sup>	2.48 in	0.254 in	6-15 psi	Air	NV
4 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.254 in	6-15 psi	Air	NV
4 NPS	6 NPS	7.218 in <sup>2</sup>	3.031 in	0.313 in	6-15 psi	Air	NV
5-6 NPS	8 NPS	10.529 in <sup>2</sup>	3.661 in	0.378 in	6-15 psi	Air	NV

Design Name: Si 41/43/44 02-05 NBCert # 72098

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 05/14/2027

#### Design Type

[Safety Valve] Si 41/43/44 02-05  
Capacity Tests: Sec. UV at National Board Testing Lab on May 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.848 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1.25 NPS	0.351 in <sup>2</sup>	0.669 in	0.22 in	15-4351 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.351 in <sup>2</sup>	0.669 in	0.22 in	15-4351 psi	Steam	UV
1 NPS	2 NPS	0.486 in <sup>2</sup>	0.787 in	0.26 in	15-4351 psi	Air	UV
1 NPS	2 NPS	0.486 in <sup>2</sup>	0.787 in	0.26 in	15-4351 psi	Steam	UV
1 NPS	1.5 NPS	0.588 in <sup>2</sup>	0.866 in	0.287 in	15-4351 psi	Air	UV
1 NPS	1.5 NPS	0.588 in <sup>2</sup>	0.866 in	0.287 in	15-4351 psi	Steam	UV
1.25-1.5 NPS	2 NPS	0.92 in <sup>2</sup>	1.083 in	0.358 in	15-3626 psi	Air	UV
1.25-1.5 NPS	2 NPS	0.92 in <sup>2</sup>	1.083 in	0.358 in	15-3626 psi	Steam	UV
1.5-2 NPS	3 NPS	1.49 in <sup>2</sup>	1.378 in	0.457 in	15-3191 psi	Air	UV
1.5-2 NPS	3 NPS	1.49 in <sup>2</sup>	1.378 in	0.457 in	15-3191 psi	Steam	UV
2 NPS	3 NPS	1.947 in <sup>2</sup>	1.575 in	0.52 in	15-2321 psi	Air	UV
2 NPS	3 NPS	1.947 in <sup>2</sup>	1.575 in	0.52 in	15-2321 psi	Steam	UV
2 NPS	3 NPS	2.147 in <sup>2</sup>	1.654 in	0.547 in	15-2321 psi	Air	UV
2 NPS	3 NPS	2.147 in <sup>2</sup>	1.654 in	0.547 in	15-2321 psi	Steam	UV
2.5-3 NPS	4 NPS	3.289 in <sup>2</sup>	2.047 in	0.677 in	15-2321 psi	Air	UV
2.5-3 NPS	4 NPS	3.289 in <sup>2</sup>	2.047 in	0.677 in	15-2321 psi	Steam	UV
3 NPS	4 NPS	3.816 in <sup>2</sup>	2.205 in	0.728 in	15-1668 psi	Air	UV



3 NPS	4 NPS	3.816 in <sup>2</sup>	2.205 in	0.728 in	15-1668 psi	Steam	UV
3 NPS	5,6 NPS	5.14 in <sup>2</sup>	2.559 in	0.846 in	15-1668 psi	Air	UV
3 NPS	5,6 NPS	5.14 in <sup>2</sup>	2.559 in	0.846 in	15-1668 psi	Steam	UV
4 NPS	6 NPS	5.962 in <sup>2</sup>	2.756 in	0.909 in	15-1160 psi	Air	UV
4 NPS	6 NPS	5.962 in <sup>2</sup>	2.756 in	0.909 in	15-1160 psi	Steam	UV
4 NPS	6 NPS	7.592 in <sup>2</sup>	3.11 in	1.028 in	15-1160 psi	Air	UV
4 NPS	6 NPS	7.592 in <sup>2</sup>	3.11 in	1.028 in	15-1160 psi	Steam	UV
5-6 NPS	8,9,10 NPS	10.521 in <sup>2</sup>	3.661 in	1.209 in	15-943 psi	Air	UV
5-6 NPS	8,9,10 NPS	10.521 in <sup>2</sup>	3.661 in	1.209 in	15-943 psi	Steam	UV
6 NPS	10 NPS	15.259 in <sup>2</sup>	4.409 in	1.457 in	15-943 psi	Air	UV
6 NPS	10 NPS	15.259 in <sup>2</sup>	4.409 in	1.457 in	15-943 psi	Steam	UV
8 NPS	10 NPS	19.009 in <sup>2</sup>	4.921 in	1.626 in	15-435 psi	Air	UV
8 NPS	10 NPS	19.009 in <sup>2</sup>	4.921 in	1.626 in	15-435 psi	Steam	UV
8 NPS	12 NPS	29.61 in <sup>2</sup>	6.142 in	2.028 in	15-435 psi	Air	UV
8 NPS	12 NPS	29.61 in <sup>2</sup>	6.142 in	2.028 in	15-435 psi	Steam	UV
10-12 NPS	14, 16 NPS	39.42 in <sup>2</sup>	7.087 in	2.339 in	15-290 psi	Air	UV
10-12 NPS	14, 16 NPS	39.42 in <sup>2</sup>	7.087 in	2.339 in	15-290 psi	Steam	UV
12 NPS	16 NPS	58.88 in <sup>2</sup>	8.661 in	2.22 in	15-290 psi	Air	UV
12 NPS	16 NPS	58.88 in <sup>2</sup>	8.661 in	2.22 in	15-290 psi	Steam	UV
14 NPS	20 NPS	67.19 in <sup>2</sup>	9.252 in	3.055 in	15-290 psi	Air	UV
14 NPS	20 NPS	67.19 in <sup>2</sup>	9.252 in	3.055 in	15-290 psi	Steam	UV
16 NPS	20 NPS	79.11 in <sup>2</sup>	10.039 in	3.315 in	15-290 psi	Air	UV
16 NPS	20 NPS	79.11 in <sup>2</sup>	10.039 in	3.315 in	15-290 psi	Steam	UV
16 NPS	20 NPS	95.39 in <sup>2</sup>	11.024 in	3.638 in	15-290 psi	Air	UV
16 NPS	20 NPS	95.39 in <sup>2</sup>	11.024 in	3.638 in	15-290 psi	Steam	UV

Design Name: Si 41/43/44 02-05 (Liquids) NBCert # 72100

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 05/17/2027

#### Design Type

[Safety Valve] Si 41/43/44 02-05 (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on May 17, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.575 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1.25, 1.50 NPS	0.352 in <sup>2</sup>	0.669 in	0.22 in	15-4351 psi	Water	UV
1 NPS	2 NPS	0.486 in <sup>2</sup>	0.787 in	0.26 in	15-4351 psi	Water	UV
1 NPS	1.5 NPS	0.589 in <sup>2</sup>	0.866 in	0.287 in	15-4351 psi	Water	UV
1.25-1.5 NPS	2 NPS	0.921 in <sup>2</sup>	1.083 in	0.358 in	15-3626 psi	Water	UV

1.5-2 NPS	2 NPS	1.491 in <sup>2</sup>	1.378 in	0.457 in	15-3626 psi	Water	UV
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.52 in	15-2321 psi	Water	UV
2 NPS	3 NPS	2.149 in <sup>2</sup>	1.654 in	0.547 in	15-2321 psi	Water	UV
2.5-3 NPS	4 NPS	3.291 in <sup>2</sup>	2.047 in	0.677 in	15-2321 psi	Water	UV
3 NPS	4 NPS	3.819 in <sup>2</sup>	2.205 in	0.728 in	15-1668 psi	Water	UV
3 NPS	5,6 NPS	5.143 in <sup>2</sup>	2.559 in	0.846 in	15-1668 psi	Water	UV
4 NPS	6 NPS	5.966 in <sup>2</sup>	2.756 in	0.909 in	15-1160 psi	Water	UV
4 NPS	6 NPS	7.596 in <sup>2</sup>	3.11 in	1.028 in	15-1160 psi	Water	UV
5-6 NPS	8, 10 NPS	10.53 in <sup>2</sup>	3.661 in	1.209 in	15-943 psi	Water	UV
6 NPS	10 NPS	15.27 in <sup>2</sup>	4.409 in	1.457 in	15-943 psi	Water	UV
8 NPS	10 NPS	19.02 in <sup>2</sup>	4.921 in	1.626 in	15-435 psi	Water	UV
8 NPS	12 NPS	29.63 in <sup>2</sup>	6.142 in	2.028 in	15-435 psi	Water	UV
10-12 NPS	16 NPS	39.45 in <sup>2</sup>	7.087 in	2.339 in	15-290 psi	Water	UV
12 NPS	16 NPS	58.92 in <sup>2</sup>	8.661 in	2.858 in	15-290 psi	Water	UV
14 NPS	20 NPS	67.23 in <sup>2</sup>	9.252 in	3.055 in	15-290 psi	Water	UV
16 NPS	20 NPS	95.44 in <sup>2</sup>	11.024 in	3.638 in	15-290 psi	Water	UV

Design Name: Si 63 (High Press.)

NBCert # 72166

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

NV

12/06/2030

#### Design Type

[Safety Relief Valve] Si 63 (High Press.)  
Capacity Tests: Sec. NV at National Board Testing Lab on December 6, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.819 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75, 1.5 NPS	0.175 in <sup>2</sup>	0.472 in	0.158 in	15-4350 psi	Air	NV
0.75-1 NPS	1, 1.25 NPS	0.312 in <sup>2</sup>	0.63 in	0.217 in	15-4350 psi	Air	NV
1 NPS	1, 1.5, 2 NPS	0.312 in <sup>2</sup>	0.63 in	0.217 in	15-4350 psi	Air	NV
1 NPS	1.5, 2 NPS	0.487 in <sup>2</sup>	0.787 in	0.276 in	15-3625 psi	Air	NV
1.25-1.5 NPS	1.25, 2 NPS	0.487 in <sup>2</sup>	0.787 in	0.276 in	15-3625 psi	Air	NV
1.25-1.5 NPS	1.5, 2 NPS	0.761 in <sup>2</sup>	0.984 in	0.335 in	15-3625 psi	Air	NV
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.434 in	15-3190 psi	Air	NV
2 NPS	2 NPS	1.247 in <sup>2</sup>	1.26 in	0.434 in	15-3190 psi	Air	NV
2-2.5 NPS	3, 4 NPS	1.948 in <sup>2</sup>	1.575 in	0.552 in	15-2900 psi	Air	NV
2.5-3 NPS	4 NPS	3.043 in <sup>2</sup>	1.969 in	0.67 in	15-2320 psi	Air	NV
3 NPS	5 NPS	4.832 in <sup>2</sup>	2.48 in	0.847 in	15-1740 psi	Air	NV
4 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.847 in	15-1740 psi	Air	NV
4 NPS	6 NPS	7.218 in <sup>2</sup>	3.031 in	1.044 in	15-1305 psi	Air	NV

5-6 NPS	8 NPS	10.529 in <sup>2</sup>	3.661 in	1.26 in	15-870 psi	Air	NV
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Design Name: Si 63 (Low Press.)		NBCert #	72177
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	NV	12/04/2030	
Design Type			

[Safety Relief Valve] Si 63 (Low Press.)  
Capacity Tests: Sec. NV at National Board Testing Lab on December 4, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.701 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75, 1.5 NPS	0.175 in <sup>2</sup>	0.472 in	0.158 in	6-15 psi	Air	NV
0.75 NPS	1, 1.25 NPS	0.312 in <sup>2</sup>	0.63 in	0.217 in	6-15 psi	Air	NV
1 NPS	1, 1.5, 2 NPS	0.312 in <sup>2</sup>	0.63 in	0.217 in	6-15 psi		NV
1 NPS	1.5, 2 NPS	0.487 in <sup>2</sup>	0.787 in	0.276 in	6-15 psi	Air	NV
1.25-1.5 NPS	1.25, 2 NPS	0.487 in <sup>2</sup>	0.787 in	0.276 in	6-15 psi	Air	NV
1.25-1.5 NPS	1.5, 2 NPS	0.761 in <sup>2</sup>	0.984 in	0.335 in	6-15 psi	Air	NV
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.434 in	6-15 psi	Air	NV
2 NPS	2 NPS	1.247 in <sup>2</sup>	1.26 in	0.434 in	6-15 psi	Air	NV
2-2.5 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.552 in	6-15 psi	Air	NV
2.5-3 NPS	4 NPS	3.043 in <sup>2</sup>	1.969 in	0.67 in	6-15 psi	Air	NV
3 NPS	5 NPS	4.832 in <sup>2</sup>	2.48 in	0.847 in	6-15 psi		NV
4 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.847 in	6-15 psi	Air	NV
4 NPS	6 NPS	7.218 in <sup>2</sup>	3.031 in	1.044 in	6-15 psi	Air	NV
5-6 NPS	8 NPS	10.529 in <sup>2</sup>	3.661 in	1.26 in	6-15 psi	Air	NV

Design Name: Si 81/83/84		NBCert #	72009
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	NV, -Class 2, -Class 3, UV	03/23/2027	
Design Type			

[Safety Relief Valve] Si 81/83/84  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab on June 19, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.2252 in <sup>2</sup>	[E] 0.535 in	0.185 in	15-2900 psi	Steam	UV

1-1.5 NPS	2, 3 NPS	0.2252 in <sup>2</sup>	[E] 0.535 in	0.185 in	15-2900 psi	Steam	NV
1-1.5 NPS	2, 3 NPS	0.2252 in <sup>2</sup>	[E] 0.535 in	0.185 in	15-7500 psi	Air	UV
1-1.5 NPS	2, 3 NPS	0.2252 in <sup>2</sup>	[E] 0.535 in	0.185 in	15-6000 psi	Air	NV
1.5 NPS	2, 2.5, 3 NPS	0.3518 in <sup>2</sup>	[F] 0.669 in	0.236 in	15-2900 psi	Steam	UV
1.5 NPS	2, 2.5, 3 NPS	0.3518 in <sup>2</sup>	[F] 0.669 in	0.236 in	15-2900 psi	Steam	NV
1.5 NPS	2, 2.5, 3 NPS	0.3518 in <sup>2</sup>	[F] 0.669 in	0.236 in	15-5000 psi	Air	NV
1.5 NPS	2, 2.5, 3 NPS	0.3518 in <sup>2</sup>	[F] 0.669 in	0.236 in	15-5500 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5785 in <sup>2</sup>	[G] 0.858 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.5785 in <sup>2</sup>	[G] 0.858 in	0.295 in	15-2900 psi	Steam	NV
1.5-2 NPS	2.5, 3 NPS	0.5785 in <sup>2</sup>	[G] 0.858 in	0.295 in	15-5500 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5785 in <sup>2</sup>	[G] 0.858 in	0.295 in	15-3705 psi	Air	NV
1.5-2 NPS	3 NPS	0.9007 in <sup>2</sup>	[H] 1.071 in	0.374 in	15-2750 psi	Air	NV
1.5-2 NPS	3 NPS	0.9007 in <sup>2</sup>	[H] 1.071 in	0.374 in	15-2750 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9007 in <sup>2</sup>	[H] 1.071 in	0.374 in	15-2750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.9007 in <sup>2</sup>	[H] 1.071 in	0.374 in	15-5080 psi	Air	UV
2-3 NPS	3, 4 NPS	1.4743 in <sup>2</sup>	[J] 1.37 in	0.472 in	15 psi	Steam	NV
2-3 NPS	3, 4 NPS	1.4743 in <sup>2</sup>	[J] 1.37 in	0.472 in	15-5500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.4743 in <sup>2</sup>	[J] 1.37 in	0.472 in	15-2700 psi	Air	NV
2-3 NPS	3, 4 NPS	1.4743 in <sup>2</sup>	[J] 1.37 in	0.472 in	15-2700 psi	Steam	UV
3 NPS	4, 6 NPS	2.1067 in <sup>2</sup>	[K] 1.638 in	0.571 in	15-2220 psi	Air	UV
3 NPS	4, 6 NPS	2.1067 in <sup>2</sup>	[K] 1.638 in	0.571 in	15-2220 psi	Air	NV
3 NPS	4, 6 NPS	2.1067 in <sup>2</sup>	[K] 1.638 in	0.571 in	15-2220 psi	Steam	UV
3 NPS	4, 6 NPS	2.1067 in <sup>2</sup>	[K] 1.638 in	0.571 in	15-2220 psi	Steam	NV
3-4 NPS	4, 6 NPS	3.2665 in <sup>2</sup>	[L] 2.039 in	0.709 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.2665 in <sup>2</sup>	[L] 2.039 in	0.709 in	15-1500 psi	Air	NV
3-4 NPS	4, 6 NPS	3.2665 in <sup>2</sup>	[L] 2.039 in	0.709 in	15-1500 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.2665 in <sup>2</sup>	[L] 2.039 in	0.709 in	15-1500 psi	Steam	NV
4 NPS	6 NPS	4.1235 in <sup>2</sup>	[M] 2.291 in	0.787 in	15-1100 psi	Air	UV
4 NPS	6 NPS	4.1235 in <sup>2</sup>	[M] 2.291 in	0.787 in	15-1100 psi	Air	NV
4 NPS	6 NPS	4.1235 in <sup>2</sup>	[M] 2.291 in	0.787 in	15-1100 psi	Steam	UV
4 NPS	6 NPS	4.1235 in <sup>2</sup>	[M] 2.291 in	0.787 in	15-1100 psi	Steam	NV
4 NPS	6 NPS	4.9708 in <sup>2</sup>	[N] 2.516 in	0.866 in	15-1000 psi	Air	UV
4 NPS	6 NPS	4.9708 in <sup>2</sup>	[N] 2.516 in	0.866 in	15-1000 psi	Air	NV
4 NPS	6 NPS	4.9708 in <sup>2</sup>	[N] 2.516 in	0.866 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.9708 in <sup>2</sup>	[N] 2.516 in	0.866 in	15-1000 psi	Steam	NV
4 NPS	6 NPS	7.3118 in <sup>2</sup>	[P] 3.051 in	1.063 in	15-1000 psi	Air	UV
4 NPS	6 NPS	7.3118 in <sup>2</sup>	[P] 3.051 in	1.063 in	15-1000 psi	Air	NV
4 NPS	6 NPS	7.3118 in <sup>2</sup>	[P] 3.051 in	1.063 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	7.3118 in <sup>2</sup>	[P] 3.051 in	1.063 in	15-1000 psi	Steam	NV
6 NPS	8 NPS	12.6655 in <sup>2</sup>	[Q] 4.016 in	1.417 in	15-600 psi	Air	UV
6 NPS	8 NPS	12.6655 in <sup>2</sup>	[Q] 4.016 in	1.417 in	15-600 psi	Air	NV

6 NPS	8 NPS	12.6655 in <sup>2</sup>	[Q] 4.016 in	1.417 in	15-600 psi	Steam	UV
6 NPS	8 NPS	12.6655 in <sup>2</sup>	[Q] 4.016 in	1.417 in	15-600 psi	Steam	NV
6 NPS	8, 10 NPS	18.3279 in <sup>2</sup>	[R] 4.831 in	1.693 in	15-300 psi	Air	UV
6 NPS	8, 10 NPS	18.3279 in <sup>2</sup>	[R] 4.831 in	1.693 in	15-300 psi	Air	NV
6 NPS	8, 10 NPS	18.3279 in <sup>2</sup>	[R] 4.831 in	1.693 in	15-300 psi	Steam	UV
6 NPS	8, 10 NPS	18.3279 in <sup>2</sup>	[R] 4.831 in	1.693 in	15-300 psi	Steam	NV
8 NPS	10 NPS	29.778 in <sup>2</sup>	[T] 6.157 in	2.165 in	15-300 psi	Air	UV
8 NPS	10 NPS	29.778 in <sup>2</sup>	[T] 6.157 in	2.165 in	15-300 psi	Air	NV
8 NPS	10 NPS	29.778 in <sup>2</sup>	[T] 6.157 in	2.165 in	15-300 psi	Steam	UV
8 NPS	10 NPS	29.778 in <sup>2</sup>	[T] 6.157 in	2.165 in	15-300 psi	Steam	NV
10 NPS	14 NPS	49087 mm <sup>2</sup>	[V] 204.5 mm	72 mm	15-300 psi	Air	UV
12 NPS	16 NPS	125664 mm <sup>2</sup>	[W] 245 mm	86 mm	15-300 psi	Air	UV

Design Name: Si 81/83/84 (Liquids)

NBCert #

72065

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV, UV	09/20/2027

#### Design Type

[Relief Valve] Si 81/83/84 (Liquids)  
Capacity Tests: Sec. NV, UV at National Board Testing Lab on June 13, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.675 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.2252 in <sup>2</sup>	[E] 0.535 in	0.185 in	15-7500 psi	Water	UV
1-1.5 NPS	2, 3 NPS	0.2252 in <sup>2</sup>	[E] 0.535 in	0.185 in	15-6000 psi	Water	NV
1-1.5 NPS	2, 2.5, 3 NPS	0.3518 in <sup>2</sup>	[F] 0.669 in	0.236 in	15-5000 psi	Water	UV
1-1.5 NPS	2, 2.5, 3 NPS	0.3518 in <sup>2</sup>	[F] 0.669 in	0.236 in	15-5000 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5785 in <sup>2</sup>	[G] 0.858 in	0.295 in	15-3705 psi	Water	UV
1.5-2 NPS	2.5, 3 NPS	0.5785 in <sup>2</sup>	[G] 0.858 in	0.295 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.9007 in <sup>2</sup>	[H] 1.071 in	0.374 in	15-2750 psi	Water	UV
1.5-2 NPS	3 NPS	0.9007 in <sup>2</sup>	[H] 1.071 in	0.374 in	15-2750 psi	Water	NV
2-3 NPS	3, 4 NPS	1.4743 in <sup>2</sup>	[J] 1.37 in	0.472 in	15-2700 psi	Water	UV
2-3 NPS	3, 4 NPS	1.4743 in <sup>2</sup>	[J] 1.37 in	0.472 in	15-2700 psi	Water	NV
3 NPS	4, 6 NPS	2.1067 in <sup>2</sup>	[K] 1.638 in	0.571 in	15-2220 psi	Water	UV
3 NPS	4, 6 NPS	2.1067 in <sup>2</sup>	[K] 1.638 in	0.571 in	15-2220 psi	Water	NV
3-4 NPS	4, 6 NPS	3.2665 in <sup>2</sup>	[L] 2.039 in	0.709 in	15-1500 psi	Water	UV
3-4 NPS	4, 6 NPS	3.2665 in <sup>2</sup>	[L] 2.039 in	0.709 in	15-1500 psi	Water	NV
4 NPS	6 NPS	4.1235 in <sup>2</sup>	[M] 2.291 in	0.787 in	15-1100 psi	Water	UV
4 NPS	6 NPS	4.1235 in <sup>2</sup>	[M] 2.291 in	0.787 in	15-1100 psi	Water	NV
4 NPS	6 NPS	4.9708 in <sup>2</sup>	[N] 2.516 in	0.866 in	15-1000 psi	Water	UV

4 NPS	6 NPS	4.9708 in <sup>2</sup>	[N] 2.516 in	0.866 in	15-1000 psi	Water	NV
4 NPS	6 NPS	7.3118 in <sup>2</sup>	[P] 3.051 in	1.063 in	15-1000 psi	Water	UV
4 NPS	6 NPS	7.3118 in <sup>2</sup>	[P] 3.051 in	1.063 in	15-1000 psi	Water	NV
6 NPS	8 NPS	12.6655 in <sup>2</sup>	[Q] 4.016 in	1.417 in	15-600 psi	Water	UV
6 NPS	8 NPS	12.6655 in <sup>2</sup>	[Q] 4.016 in	1.417 in	15-600 psi	Water	NV
6 NPS	8, 10 NPS	18.3279 in <sup>2</sup>	[R] 4.831 in	1.693 in	15-300 psi	Water	UV
6 NPS	8, 10 NPS	18.3279 in <sup>2</sup>	[R] 4.831 in	1.693 in	15-300 psi	Water	NV
8 NPS	10 NPS	29.778 in <sup>2</sup>	[T] 6.157 in	2.165 in	15-300 psi	Water	UV
8 NPS	10 NPS	29.778 in <sup>2</sup>	[T] 6.157 in	2.165 in	15-300 psi	Water	NV
10 NPS	14 NPS	49087 mm <sup>2</sup>	[V] 204.5 mm	72 mm	15-300 psi	Water	UV
12 NPS	16 NPS	125664 mm <sup>2</sup>	[W] 245 mm	86 mm	15-300 psi	Air	UV

Design Name:	Si 81/83/84 (Liquids) (RL)	NBCert #	72021
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, -Class 1, -Class 2, -Class 3, UV 09/20/2027

#### Design Type

[Relief Valve] Si 81/83/84 (Liquids) (RL)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at National Board Testing Lab on June 14, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.510 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1267 in <sup>2</sup>	[D] 0.54 in	0.087 in	15-6000 psi	Water	UV
1-1.5 NPS	2, 3 NPS	0.1267 in <sup>2</sup>	[D] 0.54 in	0.087 in	15-6000 psi	Water	NV, -Class 2, -Class 3
1-1.5 NPS	2, 3 NPS	0.1267 in <sup>2</sup>	[D] 0.54 in	0.087 in	1600-1635 psi	Water	NV, -Class 1

Design Name:	Si 91 / 95, SiZ 2507	NBCert #	72201
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV 01/27/2027

#### Design Type

[Safety Valve] Si 91 / 95, SiZ 2507  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3 at National Board Testing Lab on January 27, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.843 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5, 3 NPS	0.486 in <sup>2</sup>	0.787 in	0.236 in	44-4785 psi		NV
1.5 NPS	2.5, 3 NPS	0.76 in <sup>2</sup>	0.984 in	0.295 in	44-4785 psi		NV
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.378 in	44-4785 psi		NV

2 NPS	3 NPS	1.577 in <sup>2</sup>	1.417 in	0.425 in	44-4785 psi	NV
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.472 in	44-4785 psi	NV
2.5-3 NPS	4 NPS	2.466 in <sup>2</sup>	1.772 in	0.531 in	44-4785 psi	NV
2.5-3 NPS	4 NPS	3.291 in <sup>2</sup>	2.047 in	0.614 in	44-4785 psi	NV
3 NPS	6 NPS	4.094 in <sup>2</sup>	2.283 in	0.685 in	44-3915 psi	NV
3 NPS	6 NPS	4.831 in <sup>2</sup>	2.48 in	0.744 in	44-3915 psi	NV
4 NPS	6 NPS	5.628 in <sup>2</sup>	2.677 in	0.803 in	44-3625 psi	NV
4 NPS	6 NPS	6.487 in <sup>2</sup>	2.874 in	0.862 in	44-3625 psi	NV
4 NPS	6 NPS	7.596 in <sup>2</sup>	3.11 in	0.933 in	44-3625 psi	NV
6 NPS	8, 8 (Dual) NPS	9.005 in <sup>2</sup>	3.386 in	1.016 in	44-2610 psi	NV
6 NPS	8, 8 (Dual) NPS	10.986 in <sup>2</sup>	3.74 in	1.122 in	44-2610 psi	NV
6 NPS	8, 8 (Dual) NPS	13.422 in <sup>2</sup>	4.134 in	1.24 in	44-2610 psi	NV
6 NPS	10, 10 (Dual) NPS	15.268 in <sup>2</sup>	4.409 in	1.323 in	44-2175 psi	NV
6 NPS	10, 10 (Dual) NPS	17.527 in <sup>2</sup>	4.724 in	1.417 in	44-2175 psi	NV
8 NPS	10-14, 10-14 (Dual) NPS	21.213 in <sup>2</sup>	5.197 in	1.559 in	44-1885 psi	NV
8 NPS	12-14, 12-14 (Dual) NPS	21.862 in <sup>2</sup>	5.276 in	1.583 in	44-1885 psi	NV
8 NPS	12, 12 (Dual) NPS	24.201 in <sup>2</sup>	5.551 in	1.665 in	44-1595 psi	NV
8 NPS	12, 12 (Dual) NPS	24.271 in <sup>2</sup>	5.559 in	1.669 in	44-1595 psi	NV
8 NPS	10-14, 10-14 (Dual) NPS	25.598 in <sup>2</sup>	5.709 in	1.713 in	44-1595 psi	NV
8 NPS	10-14, 10-14 (Dual) NPS	30.386 in <sup>2</sup>	6.22 in	1.866 in	44-1595 psi	NV
10 NPS	16, 16 (Dual) NPS	35.183 in <sup>2</sup>	6.693 in	2.008 in	44-1305 psi	NV
10 NPS	16, 16 (Dual) NPS	40.772 in <sup>2</sup>	7.205 in	2.161 in	44-1305 psi	NV
10 NPS	16, 16 (Dual) NPS	47.246 in <sup>2</sup>	7.756 in	2.327 in	44-870 psi	NV
12 NPS	20, 20 (Dual) NPS	57.859 in <sup>2</sup>	8.583 in	2.575 in	44-870 psi	NV
12 NPS	20, 20 (Dual) NPS	67.23 in <sup>2</sup>	9.252 in	2.776 in	44-870 psi	NV

Design Name: Si 91 / 95, SiZ 2507 (Restricted Lift) NBCert # 72212

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, -Class 2, -Class 3 01/27/2027

#### Design Type

[Safety Valve] Si 91 / 95, SiZ 2507 (Restricted Lift)  
Capacity Tests: Sec. NV, -Class 2, -Class 3 at National Board Testing Lab on January 27, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.843 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5, 3 NPS	0.486 in <sup>2</sup>	0.787 in	0.08 in	44-4785 psi		NV
1.5 NPS	2.5, 3 NPS	0.76 in <sup>2</sup>	0.984 in	0.089 in	44-4785 psi		NV

1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.113 in	44-4785 psi	NV
2 NPS	3 NPS	1.577 in <sup>2</sup>	1.417 in	0.128 in	44-4785 psi	NV
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.142 in	44-4785 psi	NV
2.5-3 NPS	4 NPS	2.466 in <sup>2</sup>	1.772 in	0.159 in	44-4785 psi	NV
2.5-3 NPS	4 NPS	3.291 in <sup>2</sup>	2.047 in	0.184 in	44-4785 psi	NV
3 NPS	6 NPS	4.094 in <sup>2</sup>	2.283 in	0.205 in	44-3915 psi	NV
3 NPS	6 NPS	4.831 in <sup>2</sup>	2.48 in	0.223 in	44-3915 psi	NV
4 NPS	6 NPS	5.628 in <sup>2</sup>	2.677 in	0.241 in	44-3625 psi	NV
4 NPS	6 NPS	6.487 in <sup>2</sup>	2.874 in	0.259 in	44-3625 psi	NV
4 NPS	6 NPS	7.596 in <sup>2</sup>	3.11 in	0.28 in	44-3625 psi	NV
6 NPS	8, 8 (Dual) NPS	9.005 in <sup>2</sup>	3.386 in	0.305 in	44-2610 psi	NV
6 NPS	8, 8 (Dual) NPS	10.986 in <sup>2</sup>	3.74 in	0.337 in	44-2610 psi	NV
6 NPS	8, 8 (Dual) NPS	13.422 in <sup>2</sup>	4.134 in	0.372 in	44-2610 psi	NV
6 NPS	10, 10 (Dual) NPS	15.268 in <sup>2</sup>	4.409 in	0.37 in	44-2175 psi	NV
6 NPS	10, 10 (Dual) NPS	17.527 in <sup>2</sup>	4.724 in	0.425 in	44-2175 psi	NV
8 NPS	10-14, 10-14 (Dual) NPS	21.213 in <sup>2</sup>	5.197 in	0.468 in	44-1885 psi	NV
8 NPS	12-14, 12-14 (Dual) NPS	21.862 in <sup>2</sup>	5.276 in	0.475 in	44-1885 psi	NV
8 NPS	12, 12 (Dual) NPS	24.201 in <sup>2</sup>	5.551 in	0.5 in	44-1595 psi	NV
8 NPS	12, 12 (Dual) NPS	24.271 in <sup>2</sup>	5.559 in	0.501 in	44-1595 psi	NV
8 NPS	10-14, 10-14 (Dual) NPS	25.598 in <sup>2</sup>	5.709 in	0.514 in	44-1595 psi	NV
8 NPS	10-14, 10-14 (Dual) NPS	30.386 in <sup>2</sup>	6.22 in	0.56 in	44-1595 psi	NV
10 NPS	16, 16 (Dual) NPS	35.183 in <sup>2</sup>	6.693 in	0.602 in	44-1305 psi	NV
10 NPS	16, 16 (Dual) NPS	40.772 in <sup>2</sup>	7.205 in	0.648 in	44-1305 psi	NV
10 NPS	16, 16 (Dual) NPS	47.246 in <sup>2</sup>	7.756 in	0.698 in	44-870 psi	NV
12 NPS	20, 20 (Dual) NPS	57.859 in <sup>2</sup>	8.583 in	0.773 in	44-870 psi	NV
12 NPS	20, 20 (Dual) NPS	67.23 in <sup>2</sup>	9.252 in	0.833 in	44-870 psi	NV

Design Name:	Si 91/95, SiZ 2507 RL	NBCert #	72076
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, UV, V 08/09/2027

#### Design Type

[Safety Valve] Si 91/95, SiZ 2507 RL  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at National Board Testing Lab on April 7, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.826 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5, 3 NPS	0.487 in <sup>2</sup>	0.787 in	0.236 in	44-4351 psi	Steam	V



1.5 NPS	2.5, 3 NPS	0.487 in <sup>2</sup>	0.787 in	0.236 in	44-4351 psi	Steam	NV
1.5 NPS	2.5, 3 NPS	0.487 in <sup>2</sup>	0.787 in	0.236 in	44-4351 psi	Steam	UV
1.5 NPS	2.5, 3 NPS	0.761 in <sup>2</sup>	0.984 in	0.295 in	44-4351 psi	Steam	NV
1.5 NPS	2.5, 3 NPS	0.761 in <sup>2</sup>	0.984 in	0.295 in	44-4351 psi	Steam	UV
1.5 NPS	2.5, 3 NPS	0.761 in <sup>2</sup>	0.984 in	0.295 in	44-4351 psi	Steam	V
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.378 in	44-4351 psi	Steam	V
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.378 in	44-4351 psi	Steam	NV
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.378 in	44-4351 psi	Steam	UV
2 NPS	3 NPS	1.578 in <sup>2</sup>	1.417 in	0.425 in	44-3626 psi	Steam	NV
2 NPS	3 NPS	1.578 in <sup>2</sup>	1.417 in	0.425 in	44-3626 psi	Steam	UV
2 NPS	3 NPS	1.578 in <sup>2</sup>	1.417 in	0.425 in	44-3626 psi	Steam	V
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.472 in	44-3626 psi	Steam	V
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.472 in	44-3626 psi	Steam	NV
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.472 in	44-3626 psi	Steam	UV
2.5 NPS	3, 4 NPS	2.465 in <sup>2</sup>	1.772 in	0.531 in	44-4786 psi	Steam	NV
2.5 NPS	3, 4 NPS	2.465 in <sup>2</sup>	1.772 in	0.531 in	44-4786 psi	Steam	UV
2.5 NPS	3, 4 NPS	2.465 in <sup>2</sup>	1.772 in	0.531 in	44-4786 psi	Steam	V
2.5 NPS	3, 4 NPS	3.292 in <sup>2</sup>	2.047 in	0.614 in	44-4786 psi	Steam	V
2.5 NPS	3, 4 NPS	3.292 in <sup>2</sup>	2.047 in	0.614 in	44-4786 psi	Steam	NV
2.5 NPS	3, 4 NPS	3.292 in <sup>2</sup>	2.047 in	0.614 in	44-4786 psi	Steam	UV
3 NPS	6 NPS	4.095 in <sup>2</sup>	2.283 in	0.685 in	44-3916 psi	Steam	NV
3 NPS	6 NPS	4.095 in <sup>2</sup>	2.283 in	0.685 in	44-3916 psi	Steam	UV
3 NPS	6 NPS	4.095 in <sup>2</sup>	2.283 in	0.685 in	44-3916 psi	Steam	V
3 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.744 in	44-3916 psi	Steam	V
3 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.744 in	44-3916 psi	Steam	NV
3 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.744 in	44-3916 psi	Steam	UV
4 NPS	6 NPS	5.629 in <sup>2</sup>	2.677 in	0.803 in	44-3626 psi	Steam	NV
4 NPS	6 NPS	5.629 in <sup>2</sup>	2.677 in	0.803 in	44-3626 psi	Steam	UV
4 NPS	6 NPS	5.629 in <sup>2</sup>	2.677 in	0.803 in	44-3626 psi	Steam	V
4 NPS	6 NPS	6.487 in <sup>2</sup>	2.874 in	0.862 in	44-3626 psi	Steam	V
4 NPS	6 NPS	6.487 in <sup>2</sup>	2.874 in	0.862 in	44-3626 psi	Steam	NV
4 NPS	6 NPS	6.487 in <sup>2</sup>	2.874 in	0.862 in	44-3626 psi	Steam	UV
4 NPS	6 NPS	7.598 in <sup>2</sup>	3.11 in	0.933 in	44-3626 psi	Steam	NV
4 NPS	6 NPS	7.598 in <sup>2</sup>	3.11 in	0.933 in	44-3626 psi	Steam	UV
4 NPS	6 NPS	7.598 in <sup>2</sup>	3.11 in	0.933 in	44-3626 psi	Steam	V
6 NPS	8, 8 Dual NPS	9.004 in <sup>2</sup>	3.386 in	1.016 in	44-2611 psi	Steam	V
6 NPS	8, 8 Dual NPS	9.004 in <sup>2</sup>	3.386 in	1.016 in	44-2611 psi	Steam	NV
6 NPS	8, 8 Dual NPS	9.004 in <sup>2</sup>	3.386 in	1.016 in	44-2611 psi	Steam	UV
6 NPS	8, 8 Dual NPS	10.99 in <sup>2</sup>	3.74 in	1.122 in	44-2611 psi	Steam	NV
6 NPS	8, 8 Dual NPS	10.99 in <sup>2</sup>	3.74 in	1.122 in	44-2611 psi	Steam	UV
6 NPS	8, 8 Dual NPS	10.99 in <sup>2</sup>	3.74 in	1.122 in	44-2611 psi	Steam	V

6 NPS	8, 8 Dual NPS	13.42 in <sup>2</sup>	4.134 in	1.24 in	44-2611 psi	Steam	V
6 NPS	8, 8 Dual NPS	13.42 in <sup>2</sup>	4.134 in	1.24 in	44-2611 psi	Steam	NV
6 NPS	8, 8 Dual NPS	13.42 in <sup>2</sup>	4.134 in	1.24 in	44-2611 psi	Steam	UV
6 NPS	10, 10 Dual NPS	15.27 in <sup>2</sup>	4.409 in	1.323 in	44-2176 psi	Steam	NV
6 NPS	10, 10 Dual NPS	15.27 in <sup>2</sup>	4.409 in	1.323 in	44-2176 psi	Steam	UV
6 NPS	10, 10 Dual NPS	15.27 in <sup>2</sup>	4.409 in	1.323 in	44-2176 psi	Steam	V
6 NPS	10, 10 Dual NPS	17.53 in <sup>2</sup>	4.724 in	1.417 in	44-2176 psi	Steam	V
6 NPS	10, 10 Dual NPS	17.53 in <sup>2</sup>	4.724 in	1.417 in	44-2176 psi	Steam	NV
6 NPS	10, 10 Dual NPS	17.53 in <sup>2</sup>	4.724 in	1.417 in	44-2176 psi	Steam	UV
8 NPS	10, 12, 14, 10 Dual, NPS	21.21 in <sup>2</sup>	5.197 in	1.559 in	44-1870 psi	Steam	NV
8 NPS	10, 12, 14, 10 Dual, NPS	21.21 in <sup>2</sup>	5.197 in	1.559 in	44-1870 psi	Steam	UV
8 NPS	10, 12, 14, 10 Dual, NPS	21.21 in <sup>2</sup>	5.197 in	1.559 in	44-1870 psi	Steam	V
8 NPS	12, 14, 12 Dual, 14 NPS	21.86 in <sup>2</sup>	5.276 in	1.583 in	44-1814 psi	Steam	V
8 NPS	12, 14, 12 Dual, 14 NPS	21.86 in <sup>2</sup>	5.276 in	1.583 in	44-1814 psi	Steam	NV
8 NPS	12, 14, 12 Dual, 14 NPS	21.86 in <sup>2</sup>	5.276 in	1.583 in	44-1814 psi	Steam	UV
8 NPS	12, 12 Dual NPS	24.271 in <sup>2</sup>	5.559 in	1.668 in	44-1549 psi	Steam	V
8 NPS	12, 12 Dual NPS	24.271 in <sup>2</sup>	5.559 in	1.668 in	44-1549 psi	Steam	NV
8 NPS	12, 12 Dual NPS	24.271 in <sup>2</sup>	5.559 in	1.668 in	44-1549 psi	Steam	UV
8 NPS	10 Dual, 12, 14, 12 NPS	25.6 in <sup>2</sup>	5.709 in	1.713 in	44-1549 psi	Steam	V
8 NPS	10 Dual, 12, 14, 12 NPS	25.6 in <sup>2</sup>	5.709 in	1.713 in	44-1549 psi	Steam	NV
8 NPS	10 Dual, 12, 14, 12 NPS	25.6 in <sup>2</sup>	5.709 in	1.713 in	44-1549 psi	Steam	UV
8 NPS	10 Dual, 12, 14, 12 NPS	30.39 in <sup>2</sup>	6.22 in	1.866 in	44-1450 psi	Steam	NV
8 NPS	10 Dual, 12, 14, 12 NPS	30.39 in <sup>2</sup>	6.22 in	1.866 in	44-1450 psi	Steam	UV
8 NPS	10 Dual, 12, 14, 12 NPS	30.39 in <sup>2</sup>	6.22 in	1.866 in	44-1450 psi	Steam	V
10 NPS	16, 16 Dual NPS	35.18 in <sup>2</sup>	6.693 in	2.008 in	44-1450 psi	Steam	NV
10 NPS	16, 16 Dual NPS	35.18 in <sup>2</sup>	6.693 in	2.008 in	44-1450 psi	Steam	UV
10 NPS	16, 16 Dual NPS	35.18 in <sup>2</sup>	6.693 in	2.008 in	44-1450 psi	Steam	V
10 NPS	16, 16 Dual NPS	40.77 in <sup>2</sup>	7.205 in	2.161 in	44-1450 psi	Steam	V
10 NPS	16, 16 Dual NPS	40.77 in <sup>2</sup>	7.205 in	2.161 in	44-1450 psi	Steam	NV
10 NPS	16, 16 Dual NPS	40.77 in <sup>2</sup>	7.205 in	2.161 in	44-1450 psi	Steam	UV
10 NPS	16, 16 Dual NPS	47.25 in <sup>2</sup>	7.756 in	2.327 in	44-1450 psi	Steam	NV
10 NPS	16, 16 Dual NPS	47.25 in <sup>2</sup>	7.756 in	2.327 in	44-1450 psi	Steam	UV
10 NPS	16, 16 Dual NPS	47.25 in <sup>2</sup>	7.756 in	2.327 in	44-1450 psi	Steam	V
12 NPS	20, 20 Dual NPS	57.85 in <sup>2</sup>	8.583 in	2.575 in	44-609 psi	Steam	V
12 NPS	20, 20 Dual NPS	57.85 in <sup>2</sup>	8.583 in	2.575 in	44-609 psi	Steam	NV
12 NPS	20, 20 Dual NPS	57.85 in <sup>2</sup>	8.583 in	2.575 in	44-609 psi	Steam	UV
12 NPS	20, 20 Dual NPS	67.23 in <sup>2</sup>	9.252 in	2.776 in	44-609 psi	Steam	UV
12 NPS	20, 20 Dual NPS	67.23 in <sup>2</sup>	9.252 in	2.776 in	44-609 psi	Steam	NV
12 NPS	20, 20 Dual NPS	67.23 in <sup>2</sup>	9.252 in	2.776 in	44-609 psi	Steam	V

Design Name: Si 91/95, SiZ 2507 RL (Restricted Lift) NBCert # 72087

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV, -Class 2, -Class 3, UV, V	05/12/2029

#### Design Type

[Safety Valve] Si 91/95, SiZ 2507 RL (Restricted Lift)  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at National Board Testing Lab on August 3, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.826 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5, 3 NPS	0.487 in <sup>2</sup>	0.787 in	0.083 in	44-4351 psi	Steam	UV
1.5 NPS	2.5, 3 NPS	0.487 in <sup>2</sup>	0.787 in	0.083 in	44-4351 psi	Steam	V
1.5 NPS	2.5, 3 NPS	0.487 in <sup>2</sup>	0.787 in	0.083 in	44-4351 psi	Steam	NV
1.5 NPS	2.5, 3 NPS	0.761 in <sup>2</sup>	0.984 in	0.091 in	44-4351 psi	Steam	NV
1.5 NPS	2.5, 3 NPS	0.761 in <sup>2</sup>	0.984 in	0.091 in	44-4351 psi	Steam	UV
1.5 NPS	2.5, 3 NPS	0.761 in <sup>2</sup>	0.984 in	0.091 in	44-4351 psi	Steam	V
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.115 in	44-4351 psi	Steam	V
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.115 in	44-4351 psi	Steam	NV
1.5 NPS	2.5, 3 NPS	1.247 in <sup>2</sup>	1.26 in	0.115 in	44-4351 psi	Steam	UV
2 NPS	3 NPS	1.578 in <sup>2</sup>	1.417 in	0.13 in	44-3626 psi	Steam	NV
2 NPS	3 NPS	1.578 in <sup>2</sup>	1.417 in	0.13 in	44-3626 psi	Steam	UV
2 NPS	3 NPS	1.578 in <sup>2</sup>	1.417 in	0.13 in	44-3626 psi	Steam	V
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.142 in	44-3626 psi	Steam	V
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.142 in	44-3626 psi	Steam	NV
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.142 in	44-3626 psi	Steam	UV
2.5 NPS	3, 4 NPS	2.465 in <sup>2</sup>	1.772 in	0.162 in	44-4786 psi	Steam	NV
2.5 NPS	3, 4 NPS	2.465 in <sup>2</sup>	1.772 in	0.162 in	44-4786 psi	Steam	UV
2.5 NPS	3, 4 NPS	2.465 in <sup>2</sup>	1.772 in	0.162 in	44-4786 psi	Steam	V
2.5 NPS	3, 4 NPS	3.292 in <sup>2</sup>	2.047 in	0.186 in	44-4786 psi	Steam	V
2.5 NPS	3, 4 NPS	3.292 in <sup>2</sup>	2.047 in	0.186 in	44-4786 psi	Steam	NV
2.5 NPS	3, 4 NPS	3.292 in <sup>2</sup>	2.047 in	0.186 in	44-4786 psi	Steam	UV
3 NPS	6 NPS	4.095 in <sup>2</sup>	2.283 in	0.209 in	44-3916 psi	Steam	NV
3 NPS	6 NPS	4.095 in <sup>2</sup>	2.283 in	0.209 in	44-3916 psi	Steam	UV
3 NPS	6 NPS	4.095 in <sup>2</sup>	2.283 in	0.209 in	44-3916 psi	Steam	V
3 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.225 in	44-3916 psi	Steam	V
3 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.225 in	44-3916 psi	Steam	NV
3 NPS	6 NPS	4.832 in <sup>2</sup>	2.48 in	0.225 in	44-3916 psi	Steam	UV
4 NPS	6 NPS	5.629 in <sup>2</sup>	2.677 in	0.245 in	44-3626 psi	Steam	NV
4 NPS	6 NPS	5.629 in <sup>2</sup>	2.677 in	0.245 in	44-3626 psi	Steam	UV

4 NPS	6 NPS	5.629 in <sup>2</sup>	2.677 in	0.245 in	44-3626 psi	Steam	V
4 NPS	6 NPS	6.487 in <sup>2</sup>	2.874 in	0.26 in	44-3626 psi	Steam	V
4 NPS	6 NPS	6.487 in <sup>2</sup>	2.874 in	0.26 in	44-3626 psi	Steam	NV
4 NPS	6 NPS	6.487 in <sup>2</sup>	2.874 in	0.26 in	44-3626 psi	Steam	UV
4 NPS	6 NPS	7.598 in <sup>2</sup>	3.11 in	0.284 in	44-3626 psi	Steam	NV
4 NPS	6 NPS	7.598 in <sup>2</sup>	3.11 in	0.284 in	44-3626 psi	Steam	UV
4 NPS	6 NPS	7.598 in <sup>2</sup>	3.11 in	0.284 in	44-3626 psi	Steam	V
6 NPS	8, 8 Dual NPS	9.004 in <sup>2</sup>	3.386 in	0.308 in	44-2611 psi	Steam	V
6 NPS	8, 8 Dual NPS	9.004 in <sup>2</sup>	3.386 in	0.308 in	44-2611 psi	Steam	NV
6 NPS	8, 8 Dual NPS	9.004 in <sup>2</sup>	3.386 in	0.308 in	44-2611 psi	Steam	UV
6 NPS	8, 8 Dual NPS	10.99 in <sup>2</sup>	3.74 in	0.339 in	44-2611 psi	Steam	NV
6 NPS	8, 8 Dual NPS	10.99 in <sup>2</sup>	3.74 in	0.339 in	44-2611 psi	Steam	UV
6 NPS	8, 8 Dual NPS	10.99 in <sup>2</sup>	3.74 in	0.339 in	44-2611 psi	Steam	V
6 NPS	8, 8 Dual NPS	13.42 in <sup>2</sup>	4.134 in	0.375 in	44-2611 psi	Steam	V
6 NPS	8, 8 Dual NPS	13.42 in <sup>2</sup>	4.134 in	0.375 in	44-2611 psi	Steam	NV
6 NPS	8, 8 Dual NPS	13.42 in <sup>2</sup>	4.134 in	0.375 in	44-2611 psi	Steam	UV
6 NPS	10, 10 Dual NPS	15.27 in <sup>2</sup>	4.409 in	0.398 in	44-2176 psi	Steam	NV
6 NPS	10, 10 Dual NPS	15.27 in <sup>2</sup>	4.409 in	0.398 in	44-2176 psi	Steam	UV
6 NPS	10, 10 Dual NPS	15.27 in <sup>2</sup>	4.409 in	0.398 in	44-2176 psi	Steam	V
6 NPS	10, 10 Dual NPS	17.53 in <sup>2</sup>	4.724 in	0.426 in	44-2176 psi	Steam	V
6 NPS	10, 10 Dual NPS	17.53 in <sup>2</sup>	4.724 in	0.426 in	44-2176 psi	Steam	NV
6 NPS	10, 10 Dual NPS	17.53 in <sup>2</sup>	4.724 in	0.426 in	44-2176 psi	Steam	UV
8 NPS	10, 12, 14, 10 Dual, NPS	21.21 in <sup>2</sup>	5.197 in	0.469 in	44-1870 psi	Steam	NV
8 NPS	10, 12, 14, 10 Dual, NPS	21.21 in <sup>2</sup>	5.197 in	0.469 in	44-1870 psi	Steam	UV
8 NPS	10, 12, 14, 10 Dual, NPS	21.21 in <sup>2</sup>	5.197 in	0.469 in	44-1870 psi	Steam	V
8 NPS	12, 14, 12 Dual, 14 NPS	21.86 in <sup>2</sup>	5.276 in	0.468 in	44-1814 psi	Steam	V
8 NPS	12, 14, 12 Dual, 14 NPS	21.86 in <sup>2</sup>	5.276 in	0.468 in	44-1814 psi	Steam	NV
8 NPS	12, 14, 12 Dual, 14 NPS	21.86 in <sup>2</sup>	5.276 in	0.468 in	44-1814 psi	Steam	UV
8 NPS	12, 12 Dual NPS	24.271 in <sup>2</sup>	5.559 in	0.5 in	44-1549 psi	Steam	V
8 NPS	12, 12 Dual NPS	24.271 in <sup>2</sup>	5.559 in	0.5 in	44-1549 psi	Steam	NV
8 NPS	12, 12 Dual NPS	24.271 in <sup>2</sup>	5.559 in	0.5 in	44-1549 psi	Steam	UV
8 NPS	10 Dual, 12, 14, 12 NPS	25.6 in <sup>2</sup>	5.709 in	0.516 in	44-1549 psi	Steam	V
8 NPS	10 Dual, 12, 14, 12 NPS	25.6 in <sup>2</sup>	5.709 in	0.516 in	44-1549 psi	Steam	NV
8 NPS	10 Dual, 12, 14, 12 NPS	25.6 in <sup>2</sup>	5.709 in	0.516 in	44-1549 psi	Steam	UV
8 NPS	10 Dual, 12, 14, 12 NPS	30.39 in <sup>2</sup>	6.22 in	0.563 in	44-1450 psi	Steam	NV
8 NPS	10 Dual, 12, 14, 12 NPS	30.39 in <sup>2</sup>	6.22 in	0.563 in	44-1450 psi	Steam	UV
8 NPS	10 Dual, 12, 14, 12 NPS	30.39 in <sup>2</sup>	6.22 in	0.563 in	44-1450 psi	Steam	V
10 NPS	16, 16 Dual NPS	35.18 in <sup>2</sup>	6.693 in	0.603 in	44-1450 psi	Steam	NV
10 NPS	16, 16 Dual NPS	35.18 in <sup>2</sup>	6.693 in	0.603 in	44-1450 psi	Steam	UV
10 NPS	16, 16 Dual NPS	35.18 in <sup>2</sup>	6.693 in	0.603 in	44-1450 psi	Steam	V

10 NPS	16, 16 Dual NPS	40.77 in <sup>2</sup>	7.205 in	0.65 in	44-1450 psi	Steam	V
10 NPS	16, 16 Dual NPS	40.77 in <sup>2</sup>	7.205 in	0.65 in	44-1450 psi	Steam	NV
10 NPS	16, 16 Dual NPS	40.77 in <sup>2</sup>	7.205 in	0.65 in	44-1450 psi	Steam	UV
10 NPS	16, 16 Dual NPS	47.25 in <sup>2</sup>	7.756 in	0.701 in	44-1450 psi	Steam	NV
10 NPS	16, 16 Dual NPS	47.25 in <sup>2</sup>	7.756 in	0.701 in	44-1450 psi	Steam	UV
10 NPS	16, 16 Dual NPS	47.25 in <sup>2</sup>	7.756 in	0.701 in	44-1450 psi	Steam	V
12 NPS	20, 20 Dual NPS	57.85 in <sup>2</sup>	8.583 in	0.776 in	44-609 psi	Steam	V
12 NPS	20, 20 Dual NPS	57.85 in <sup>2</sup>	8.583 in	0.776 in	44-609 psi	Steam	NV
12 NPS	20, 20 Dual NPS	57.85 in <sup>2</sup>	8.583 in	0.776 in	44-609 psi	Steam	UV
12 NPS	20, 20 Dual NPS	67.23 in <sup>2</sup>	9.252 in	0.835 in	44-609 psi	Steam	UV
12 NPS	20, 20 Dual NPS	67.23 in <sup>2</sup>	9.252 in	0.835 in	44-609 psi	Steam	NV
12 NPS	20, 20 Dual NPS	67.23 in <sup>2</sup>	9.252 in	0.835 in	44-609 psi	Steam	V

Design Name: Si/83/84/81 (RL) NBCert # 72010

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, UV 03/23/2027

#### Design Type

[Safety Relief Valve] Si/83/84/81 (RL)  
Capacity Tests: Sec. NV, UV at National Board Testing Lab on June 19, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.200 SCFM/PSIA; (alternate medium): 6.180 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1267 in <sup>2</sup>	[D] 0.54 in	0.087 in	15-2900 psi	Steam	UV
1-1.5 NPS	2, 3 NPS	0.1267 in <sup>2</sup>	[D] 0.54 in	0.087 in	15-2900 psi	Steam	NV
1-1.5 NPS	2, 3 NPS	0.1267 in <sup>2</sup>	[D] 0.54 in	0.087 in	15-6000 psi	Air	UV
1-1.5 NPS	2, 3 NPS	0.1267 in <sup>2</sup>	[D] 0.54 in	0.087 in	15-6000 psi	Air	NV

Design Name: SiC 11/13/14 NBCert # 72043

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, UV 10/15/2026

#### Design Type

[Safety Relief Valve] SiC 11/13/14  
Capacity Tests: Sec. NV, UV at National Board Testing Lab on July 19, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	0.099 in <sup>2</sup>	0.355 in	0.107 in	15-2900 psi	Air	UV
0.5-0.75 NPS	1 NPS	0.099 in <sup>2</sup>	0.355 in	0.107 in	15-2900 psi	Air	NV
0.5-0.75 NPS	1 NPS	0.099 in <sup>2</sup>	0.355 in	0.107 in	15-2900 psi	Steam	UV
0.5-0.75 NPS	1 NPS	0.099 in <sup>2</sup>	0.355 in	0.107 in	15-2900 psi	Steam	NV
0.75-1 NPS	1 NPS	0.181 in <sup>2</sup>	0.481 in	0.146 in	15-1500 psi	Air	UV
0.75-1 NPS	1 NPS	0.181 in <sup>2</sup>	0.481 in	0.146 in	15-1500 psi	Air	NV
0.75-1 NPS	1 NPS	0.181 in <sup>2</sup>	0.481 in	0.146 in	15-1500 psi	Steam	UV
0.75-1 NPS	1 NPS	0.181 in <sup>2</sup>	0.481 in	0.146 in	15-1500 psi	Steam	NV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.67 in	0.201 in	15-750 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.67 in	0.201 in	15-750 psi	Air	NV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.67 in	0.201 in	15-750 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.67 in	0.201 in	15-750 psi	Steam	NV

Design Name:	SiC 11/13/14 (Liquids)	NBCert #	72054
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, UV 04/15/2028

#### Design Type

[Relief Valve] SiC 11/13/14 (Liquids)  
Capacity Tests: Sec. NV, UV at National Board Testing Lab on July 19, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.647 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	0.099 in <sup>2</sup>	0.355 in	0.107 in	15-2900 psi	Water	UV
0.5-0.75 NPS	1 NPS	0.099 in <sup>2</sup>	0.355 in	0.107 in	15-2900 psi	Water	NV
0.75-1 NPS	1 NPS	0.181 in <sup>2</sup>	0.481 in	0.146 in	15-1500 psi	Water	UV
0.75-1 NPS	1 NPS	0.181 in <sup>2</sup>	0.481 in	0.146 in	15-1500 psi	Water	NV
1 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.67 in	0.201 in	15-750 psi	Water	UV
1 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.67 in	0.201 in	15-750 psi	Water	NV

Design Name:	SiZ 2507	NBCert #	72032
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV 11/30/2028

### Design Type

[Safety Valve] SiZ 2507  
Capacity Tests: Sec. NV at National Board Testing Lab on January 31, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Bopp & Reuther Valves GmbH {BOP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
200 mm	300 mm	24.2 in²	141 mm	51 mm	726-745 psi	Steam	NV

### BS & B Premco LLC (PRL)

Tulsa, OK 74145United States

#### This Company Manufactures or Assembles:

Design Name: BPAV (air/gas) NBCert # 77981

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	02/08/2029

### Design Type

[Buckling Pin Non-reclosing Device] BPAV (air/gas)  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 27, 2011  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.800 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift & MNFA  
Designed by: BS & B Premco LLC {PRL}  
Comments: Lifts listed are required total travel.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.72 in²	0.957 in	0.912 in	2100-3500 psi	Air	UD
1 NPS	1.5 NPS	0.86 in²	1.046 in	0.912 in	15-2100 psi	Air	UD
1.5 NPS	2 NPS	2.04 in²	1.612 in	1.051 in	15-1440 psi	Air	UD
2 NPS	3 NPS	3.36 in²	2.067 in	1.257 in	15-720 psi	Air	UD
3 NPS	4 NPS	7.39 in²	3.067 in	1.755 in	15-720 psi	Air	UD
4 NPS	6 NPS	12.73 in²	4.026 in	2.084 in	15-720 psi	Air	UD
6 NPS	8, 10 NPS	28.89 in²	6.065 in	2.61 in	15-275 psi	Air	UD
8 NPS	10 NPS	50.03 in²	7.981 in	3.304 in	15-275 psi	Air	UD

Design Name: BPAV (Liquid) NBCert # 77970

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/19/2029

**Design Type**

[Buckling Pin Non-reclosing Device] BPAV (Liquid)  
 Capacity Tests: Sec. UD at National Board Testing Lab on May 3, 2012  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.686 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: Buckling Pressure  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: BS & B Premco LLC {PRL}  
 Comments: Lifts listed are required total travel.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.72 in <sup>2</sup>	0.957 in	0.912 in	2100-3500 psi	Water	UD
1 NPS	1.5 NPS	0.86 in <sup>2</sup>	1.046 in	0.912 in	50-2100 psi	Water	UD
1.5 NPS	2 NPS	2.04 in <sup>2</sup>	1.612 in	1.051 in	15-1440 psi	Water	UD
2 NPS	3 NPS	3.36 in <sup>2</sup>	2.067 in	1.257 in	15-720 psi	Water	UD
3 NPS	4 NPS	7.39 in <sup>2</sup>	3.067 in	1.755 in	15-720 psi	Water	UD
4 NPS	6 NPS	12.73 in <sup>2</sup>	4.026 in	2.084 in	15-720 psi	Water	UD
6 NPS	8, 10 NPS	28.89 in <sup>2</sup>	6.065 in	2.61 in	15-275 psi	Water	UD
8 NPS	10 NPS	50.03 in <sup>2</sup>	7.981 in	3.304 in	15-275 psi	Water	UD

Design Name: BPCV (Air/Gas) NBCert # 78386

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/27/2030

**Design Type**

[Buckling Pin Non-reclosing Device] BPCV (Air/Gas)  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 12, 2017  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.706 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Buckling Pressure  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: BS & B Premco LLC {PRL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.72 in <sup>2</sup>	0.957 in	0.371 in	2101-3500 psi	Air	UD
1 NPS	1 NPS	0.86 in <sup>2</sup>	1.05 in	0.371 in	15-2100 psi	Air	UD
1.5 NPS	1.5 NPS	2.04 in <sup>2</sup>	1.61 in	0.547 in	15-1440 psi	Air	UD
2 NPS	2 NPS	3.36 in <sup>2</sup>	2.07 in	0.703 in	15-720 psi	Air	UD
3 NPS	3 NPS	7.39 in <sup>2</sup>	3.07 in	1.016 in	15-720 psi	Air	UD
4 NPS	4 NPS	12.73 in <sup>2</sup>	4.03 in	1.328 in	15-720 psi	Air	UD
6 NPS	6 NPS	28.89 in <sup>2</sup>	6.07 in	1.953 in	15-275 psi	Air	UD
8 NPS	8 NPS	50.03 in <sup>2</sup>	7.981 in	2.656 in	15-275 psi	Air	UD
10 NPS	10 NPS	78.81 in <sup>2</sup>	10.02 in	3.281 in	15-275 psi	Air	UD
12 NPS	12 NPS	113.04 in <sup>2</sup>	12 in	3.906 in	15-275 psi	Air	UD
14 NPS	14 NPS	137.81 in <sup>2</sup>	13.25 in	4.297 in	15-275 psi	Air	UD



Design Name: BPCV (Liquid)		NBCert #	78397
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	10/16/2030
Design Type			
[Buckling Pin Non-reclosing Device] BPCV (Liquid) Capacity Tests: Sec. UD at National Board Testing Lab on June 4, 2018 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.617 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Buckling Pressure Flow Area Configuration: Nozzle/Full Lift Designed by: BS & B Premco LLC {PRL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.72 in <sup>2</sup>	0.957 in	0.371 in	2101-3500 psi	Water	UD
1 NPS	1 NPS	0.86 in <sup>2</sup>	1.05 in	0.371 in	15-2100 psi	Water	UD
1.5 NPS	1.5 NPS	2.04 in <sup>2</sup>	1.61 in	0.547 in	15-1440 psi	Water	UD
2 NPS	2 NPS	3.36 in <sup>2</sup>	2.07 in	0.703 in	15-720 psi	Water	UD
3 NPS	3 NPS	7.39 in <sup>2</sup>	3.07 in	1.016 in	15-720 psi	Water	UD
4 NPS	4 NPS	12.73 in <sup>2</sup>	4.03 in	1.328 in	15-720 psi	Water	UD
6 NPS	6 NPS	28.89 in <sup>2</sup>	6.07 in	1.953 in	15-275 psi	Water	UD
8 NPS	8 NPS	50.03 in <sup>2</sup>	7.981 in	2.656 in	15-275 psi	Water	UD
10 NPS	10 NPS	78.81 in <sup>2</sup>	10.02 in	3.281 in	15-275 psi	Water	UD
12 NPS	12 NPS	113.04 in <sup>2</sup>	12 in	3.906 in	15-275 psi	Water	UD
14 NPS	14 NPS	137.81 in <sup>2</sup>	13.25 in	4.297 in	15-275 psi	Water	UD

Design Name: BPCV LP (Air)		NBCert #	78498
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	11/17/2026
Design Type			
[Buckling Pin Non-reclosing Device] BPCV LP (Air) Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 21, 2020 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 2.310 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Buckling Pressure Flow Area Configuration: MNFA Designed by: BS & B Premco LLC {PRL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	6 NPS	28.89 in <sup>2</sup>	6.067 in	3.5 in	1-15 psi	Air	UD
8 NPS	8 NPS	50 in <sup>2</sup>	7.981 in	4.62 in	1-15 psi	Air	UD
10 NPS	10 NPS	78.81 in <sup>2</sup>	10.02 in	5.833 in	1-15 psi	Air	UD
12 in	12 in	113.04 in <sup>2</sup>	12 in	6.986 in	1-15 psi	Air	UD
14 NPS	14 NPS	137.82 in <sup>2</sup>	13.25 in	7.714 in	1-15 psi	Air	UD
16 NPS	16 NPS	182.56 in <sup>2</sup>	15.25 in	8.878 in	1-15 psi	Air	UD

18 NPS	18 NPS	233.59 in <sup>2</sup>	17.25 in	10.042 in	1-15 psi	Air	UD
20 NPS	20 NPS	290.89 in <sup>2</sup>	19.25 in	11.207 in	1-15 psi	Air	UD
24 NPS	24 NPS	424.34 in <sup>2</sup>	23.25 in	13.536 in	1-15 psi	Air	UD
30 NPS	30 NPS	617.62 in <sup>2</sup>	29.25 in	17.029 in	1-15 psi	Air	UD

Design Name: BPPV NBCert # 77992

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 06/19/2030

#### Design Type

[Buckling Pin Non-reclosing Device] BPPV  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on December 20, 2011  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 2.200 Unitless; Certification Provisions: Exceeds Lab Limits (Prev. CC 2397)  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: BS & B Premco LLC {PRL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6-6 NPS	6 NPS	28.27 in <sup>2</sup>	6 in	3 in	15-275 psi	Air	UD
8-8 NPS	8 NPS	49.02 in <sup>2</sup>	7.9 in	3.95 in	15-275 psi	Air	UD
10-10 NPS	10 NPS	77.32 in <sup>2</sup>	9.92 in	4.96 in	15-275 psi	Air	UD
12-12 NPS	12 NPS	110.85 in <sup>2</sup>	11.88 in	5.94 in	15-275 psi	Air	UD
14-14 NPS	14 NPS	135.1 in <sup>2</sup>	13.12 in	6.56 in	15-275 psi	Air	UD
16-16 NPS	16 NPS	179 in <sup>2</sup>	15.1 in	7.55 in	15-275 psi	Air	UD
18-18 NPS	18 NPS	229 in <sup>2</sup>	17.08 in	8.54 in	15-275 psi	Air	UD
20-20 NPS	20 NPS	285.2 in <sup>2</sup>	19.06 in	9.53 in	15-275 psi	Air	UD
22-22 NPS	22 NPS	347.5 in <sup>2</sup>	21.04 in	10.52 in	15-275 psi	Air	UD
24-24 NPS	24 NPS	416.1 in <sup>2</sup>	23.02 in	11.51 in	15-275 psi	Air	UD
26-26 NPS	26 NPS	490.6 in <sup>2</sup>	25 in	12.5 in	15-275 psi	Air	UD
28-28 NPS	28 NPS	571.5 in <sup>2</sup>	26.98 in	13.49 in	15-275 psi	Air	UD
30-30 NPS	30 NPS	658.4 in <sup>2</sup>	28.96 in	14.48 in	15-275 psi	Air	UD
32-32 NPS	32 NPS	751.5 in <sup>2</sup>	30.94 in	15.47 in	15-100 psi	Air	UD
34-34 NPS	34 NPS	850.8 in <sup>2</sup>	32.92 in	16.46 in	15-100 psi	Air	UD
36-36 NPS	36 NPS	956.2 in <sup>2</sup>	34.9 in	17.45 in	15-100 psi	Air	UD
38-38 NPS	38 NPS	1067.8 in <sup>2</sup>	36.88 in	18.44 in	15-100 psi	Air	UD
40-40 NPS	40 NPS	1185.6 in <sup>2</sup>	38.86 in	19.43 in	15-100 psi	Air	UD
42-42 NPS	42 NPS	1309.5 in <sup>2</sup>	40.84 in	20.42 in	15-100 psi	Air	UD
44-44 NPS	44 NPS	1439.5 in <sup>2</sup>	42.82 in	21.41 in	15-100 psi	Air	UD
46-46 NPS	46 NPS	1575.7 in <sup>2</sup>	44.8 in	22.4 in	15-100 psi	Air	UD
48-48 NPS	48 NPS	1718.1 in <sup>2</sup>	46.78 in	23.39 in	15-100 psi	Air	UD
50-50 NPS	50 NPS	1866.6 in <sup>2</sup>	48.76 in	24.38 in	15-100 psi	Air	UD
52-52 NPS	52 NPS	2021.3 in <sup>2</sup>	50.74 in	25.37 in	15-100 psi	Air	UD
54-54 NPS	54 NPS	2182.1 in <sup>2</sup>	52.72 in	26.36 in	15-100 psi	Air	UD

56-56 NPS	56 NPS	2349.1 in <sup>2</sup>	54.7 in	27.35 in	15-100 psi	Air	UD
58-58 NPS	58 NPS	2522.3 in <sup>2</sup>	56.68 in	28.34 in	15-100 psi	Air	UD
60-60 NPS	60 NPS	2701.6 in <sup>2</sup>	58.66 in	29.33 in	15-100 psi	Air	UD
62-62 NPS	62 NPS	2887.1 in <sup>2</sup>	60.64 in	30.32 in	15-100 psi	Air	UD
64-64 NPS	64 NPS	3078.7 in <sup>2</sup>	62.63 in	31.31 in	15-100 psi	Air	UD
66-66 NPS	66 NPS	3276.5 in <sup>2</sup>	64.61 in	32.3 in	15-100 psi	Air	UD
68-68 NPS	68 NPS	3480.4 in <sup>2</sup>	66.59 in	33.29 in	15-100 psi	Air	UD
70-70 NPS	70 NPS	3690.5 in <sup>2</sup>	68.57 in	34.28 in	15-100 psi	Air	UD
72-72 NPS	72 NPS	3906.7 in <sup>2</sup>	70.55 in	35.27 in	15-100 psi	Air	UD
74-74 NPS	74 NPS	4129.1 in <sup>2</sup>	72.53 in	36.26 in	15-100 psi	Air	UD
76-76 NPS	76 NPS	4357.7 in <sup>2</sup>	74.51 in	37.25 in	15-100 psi	Air	UD
78-78 NPS	78 NPS	4592.4 in <sup>2</sup>	76.49 in	38.24 in	15-100 psi	Air	UD
80-80 NPS	80 NPS	4833.3 in <sup>2</sup>	78.47 in	39.23 in	15-100 psi	Air	UD
82-82 NPS	82 NPS	5080.3 in <sup>2</sup>	80.45 in	40.22 in	15-100 psi	Air	UD
84-84 NPS	84 NPS	5333.5 in <sup>2</sup>	82.43 in	41.41 in	15-100 psi	Air	UD
86-86 NPS	86 NPS	5592.9 in <sup>2</sup>	84.41 in	42.2 in	15-100 psi	Air	UD
88-88 NPS	88 NPS	5858.4 in <sup>2</sup>	86.39 in	43.19 in	15-100 psi	Air	UD
90-90 NPS	90 NPS	6130 in <sup>2</sup>	88.37 in	44.18 in	15-100 psi	Air	UD
92-92 NPS	92 NPS	6407.8 in <sup>2</sup>	90.35 in	45.17 in	15-100 psi	Air	UD
94-94 NPS	94 NPS	6691.8 in <sup>2</sup>	92.33 in	46.16 in	15-100 psi	Air	UD
96-96 NPS	96 NPS	6981.9 in <sup>2</sup>	94.31 in	47.15 in	15-100 psi	Air	UD

Design Name: BPRV, BPIV, TOV NBCert # 77813

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	04/24/2030

#### Design Type

[Buckling Pin Non-reclosing Device] BPRV, BPIV, TOV  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 12, 2004  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.220 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Premco LLC {PRL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		62.48 in <sup>2</sup>			1-2250 psi		UD
12 NPS		90.5 in <sup>2</sup>			1-2250 psi		UD
14 NPS		109 in <sup>2</sup>			1-1440 psi		UD
16 NPS		149 in <sup>2</sup>			1-1440 psi		UD
18 NPS		196.2 in <sup>2</sup>			1-1440 psi		UD
2 NPS		2.75 in <sup>2</sup>			15-3700 psi		UD
20 NPS		239.1 in <sup>2</sup>			1-720 psi		UD
24 NPS		367.6 in <sup>2</sup>			1-720 psi		UD

26 NPS	400.6 in <sup>2</sup>	1-720 psi	UD
28 NPS	466.8 in <sup>2</sup>	1-720 psi	UD
3 NPS	6 in <sup>2</sup>	15-3700 psi	UD
30 NPS	601 in <sup>2</sup>	1-720 psi	UD
32 NPS	614 in <sup>2</sup>	1-720 psi	UD
34 NPS	695 in <sup>2</sup>	1-720 psi	UD
36 NPS	781 in <sup>2</sup>	1-720 psi	UD
38 NPS	872 in <sup>2</sup>	1-720 psi	UD
4 NPS	10 in <sup>2</sup>	15-2250 psi	UD
40 NPS	968 in <sup>2</sup>	1-720 psi	UD
42 NPS	1069 in <sup>2</sup>	1-720 psi	UD
44 NPS	1175 in <sup>2</sup>	1-720 psi	UD
46 NPS	1286 in <sup>2</sup>	1-160 psi	UD
48 NPS	1403 in <sup>2</sup>	1-160 psi	UD
50 NPS	1524 in <sup>2</sup>	1-160 psi	UD
52 NPS	1650 in <sup>2</sup>	1-160 psi	UD
54 NPS	1784 in <sup>2</sup>	1-160 psi	UD
56 NPS	1918 in <sup>2</sup>	1-160 psi	UD
58 NPS	2059.4 in <sup>2</sup>	1-160 psi	UD
6 NPS	23.5 in <sup>2</sup>	1-2250 psi	UD
60 NPS	2206 in <sup>2</sup>	1-160 psi	UD
62 NPS	2357 in <sup>2</sup>	1-160 psi	UD
64 NPS	2514 in <sup>2</sup>	1-160 psi	UD
66 NPS	2675 in <sup>2</sup>	1-160 psi	UD
68 NPS	2842 in <sup>2</sup>	1-160 psi	UD
70 NPS	3013 in <sup>2</sup>	1-160 psi	UD
72 NPS	3190 in <sup>2</sup>	1-160 psi	UD
74 NPS	3371 in <sup>2</sup>	1-160 psi	UD
76 NPS	3558 in <sup>2</sup>	1-160 psi	UD
78 NPS	3750 in <sup>2</sup>	1-160 psi	UD
8 NPS	39.65 in <sup>2</sup>	1-2250 psi	UD

Design Name: RDV-HP

NBCert #

79017

Manufacturer/Assembler

Designators

Expiration Date

Manufacturer

UV

06/09/2026

Design Type

[Safety Relief Valve] RDV-HP

Capacity Tests: Sec. UV at National Board Testing Lab on March 20, 2014

Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method

Certified Value:3261.0 SCFM

Media - Test: Air/Gas; Certified: Air, Gas

Set Pressure Definition: Bubble

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: BS & B Premco LLC {PRL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	3 NPS	4.345 in <sup>2</sup>	2.352 in	0.384 in	50-50 psi	Air	UV

<b>BS &amp; B Safety Systems, LLC (BSB)</b>	Nameplate Abbreviation: BS&B
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Tulsa, OK 74145United States

### This Company Manufactures or Assembles:

Design Name:	0.5" FRB WFT	NBCert #	77600
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/15/2028

#### Design Type

[Rupture Disk Device] 0.5" FRB WFT  
HolderDesignation: Single use assembly  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 7, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value:35.700 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	1 NPS	0.216 in <sup>2</sup>			85-450 psi	Air	UD

Design Name:	1/2" FRB A-6 M x F & M x M Stakul, W-6 FRB, W-6 FRB F	NBCert #	77217
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/20/2026

#### Design Type

[Rupture Disk Device] 1/2" FRB A-6 M x F & M x M Stakul, W-6 FRB, W-6 FRB F  
HolderDesignation: A-6  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 8, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 2.190 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	0.5 NPS	0.196 in <sup>2</sup>			35-800 psi		UD

Design Name:	1/2" Welded FRB with 3/4" Sanitary Clamp Connection (A/G/L)	NBCert #	77442
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	04/12/2027

**Design Type**

[Rupture Disk Device] 1/2" Welded FRB with 3/4" Sanitary Clamp Connection (A/G/L)  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 11, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
Certified Value: 12.000 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	0.75 NPS	0.22 in <sup>2</sup>	0.62 in		65-300 psi		UD

Design Name: 2" B NBCert # 77497

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/03/2025

**Design Type**

[Rupture Disk Device] 2" B  
HolderDesignation: FA-7R, 1F - 9F, UA-2,3,5,6  
Capacity Tests: Sec. UD at National Board Testing Lab on August 11, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 0.230 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		3.33 in <sup>2</sup>			16-6000 psi		UD

Design Name: 2" BV NBCert # 77486

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/20/2025

**Design Type**

[Rupture Disk Device] 2" BV  
HolderDesignation: FA-7R, FA-1F - 9F, UA-2,3,5,6  
Capacity Tests: Sec. UD at National Board Testing Lab on August 11, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 0.550 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.24 in <sup>2</sup>			16-6000 psi		UD

Design Name: 3/4" B assembly NBCert # 77228

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	03/05/2027

**Design Type**

[Rupture Disk Device] 3/4" B assembly  
HolderDesignation: Single use  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on February 18, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 3.850 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.44 in <sup>2</sup>			108-1000 psi		UD

Design Name: A-10 SK 1" SCD B, A-10 Special NBCert # 77587

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/13/2028

**Design Type**

[Rupture Disk Device] A-10 SK 1" SCD B, A-10 Special  
HolderDesignation: Integral  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 6, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 0.415 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	1 NPS	0.785 in <sup>2</sup>			150-900 psi		UD

Design Name: A19 with Scored B Disk NBCert # 77644

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	07/15/2029

**Design Type**

[Rupture Disk Device] A19 with Scored B Disk  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 30, 2001  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 0.503 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.44 in <sup>2</sup>			108-1000 psi		UD

Design Name: A-2 SK 0.5 FRB NBCert # 77598

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/15/2028

**Design Type**

[Rupture Disk Device] A-2 SK 0.5 FRB  
HolderDesignation: Integral  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 1, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 2.200 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	0.5 NPS	0.196 in <sup>2</sup>			50-650 psi		UD

Design Name: A-6 with B Disk, W-6 with B Disk NBCert # 77633

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

05/24/2029

**Design Type**

[Rupture Disk Device] A-6 with B Disk, W-6 with B Disk  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 25, 2001  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 6.440 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.5 NPS	0.19 in <sup>2</sup>			600-5000 psi		UD

Design Name: AV NBCert # 77341

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

02/28/2027

**Design Type**

[Rupture Disk Device] AV  
HolderDesignation: AV7R, AV-7RS, AV-7FS, AV-1, -2, -3, -4, -5, -6, -7, -8, -9  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on November 4, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 4.350 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		78.85 in <sup>2</sup>			0.6-60 psi		UD
12 NPS		113.1 in <sup>2</sup>			0.6-60 psi		UD
14 NPS		137.9 in <sup>2</sup>			0.6-60 psi		UD
16 NPS		182.7 in <sup>2</sup>			0.6-60 psi		UD
18 NPS		233.7 in <sup>2</sup>			0.5-60 psi		UD
2 NPS		3.356 in <sup>2</sup>			5-150 psi		UD
2.5 NPS		4.787 in <sup>2</sup>			5-150 psi		UD



20 NPS	291 in <sup>2</sup>	0.5-60 psi	UD
22 NPS	354.7 in <sup>2</sup>	0.5-60 psi	UD
24 NPS	424.6 in <sup>2</sup>	0.5-60 psi	UD
26 NPS	500.7 in <sup>2</sup>	0.5-45 psi	UD
28 NPS	583.2 in <sup>2</sup>	0.5-45 psi	UD
3 NPS	7.392 in <sup>2</sup>	4-150 psi	UD
30 NPS	672 in <sup>2</sup>	0.5-45 psi	UD
32 NPS	767 in <sup>2</sup>	0.35-40 psi	UD
34 NPS	868.3 in <sup>2</sup>	0.35-40 psi	UD
36 NPS	975.9 in <sup>2</sup>	0.25-40 psi	UD
38 NPS	1090 in <sup>2</sup>	0.25-40 psi	UD
4 NPS	12.73 in <sup>2</sup>	2-150 psi	UD
40 NPS	1210 in <sup>2</sup>	0.25-40 psi	UD
42 NPS	1336 in <sup>2</sup>	0.25-40 psi	UD
44 NPS	1469 in <sup>2</sup>	0.25-40 psi	UD
46 NPS	1608 in <sup>2</sup>	0.25-40 psi	UD
48 NPS	1753 in <sup>2</sup>	0.25-40 psi	UD
5 NPS	20 in <sup>2</sup>	2-100 psi	UD
6 NPS	28.89 in <sup>2</sup>	1-100 psi	UD
8 NPS	50.02 in <sup>2</sup>	1-100 psi	UD

Design Name: B, BR, BRR (liquid)

NBCert #

77318

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UD

08/26/2026

#### Design Type

[Rupture Disk Device] B, BR, BRR (liquid)  
 HolderDesignation: FA-7R, FA-1 - FA9, UA-2,3,5,6  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 12, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 1.470 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Krl test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.189 in <sup>2</sup>			80-30000 psi		UD
1 NPS		0.801 in <sup>2</sup>			40-12000 psi		UD
1.5 NPS		1.76 in <sup>2</sup>			26-6000 psi		UD
10 NPS		78.85 in <sup>2</sup>			4-1400 psi		UD
12 NPS		112.5 in <sup>2</sup>			4-1000 psi		UD
14 NPS		137.9 in <sup>2</sup>			3-750 psi		UD
16 NPS		182.7 in <sup>2</sup>			3-500 psi		UD
18 NPS		233.7 in <sup>2</sup>			3-475 psi		UD
2 NPS		3.33 in <sup>2</sup>			16-6000 psi		UD

20 NPS	291 in <sup>2</sup>	2-450 psi	UD
24 NPS	424.6 in <sup>2</sup>	2-230 psi	UD
3 NPS	6.514 in <sup>2</sup>	12-6000 psi	UD
30 NPS	672 in <sup>2</sup>	2-184 psi	UD
32 NPS	767 in <sup>2</sup>	2-181 psi	UD
36 NPS	976 in <sup>2</sup>	6-160 psi	UD
4 NPS	11.82 in <sup>2</sup>	9-6000 psi	UD
40 NPS	1210 in <sup>2</sup>	6-145 psi	UD
42 NPS	1336 in <sup>2</sup>	3-138 psi	UD
44 NPS	1469 in <sup>2</sup>	6-132 psi	UD
6 NPS	28.84 in <sup>2</sup>	7-3600 psi	UD
8 NPS	49.89 in <sup>2</sup>	5-3600 psi	UD

Design Name: B, BR, BRR, Welded B

NBCert # 77037

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/04/2026

#### Design Type

[Rupture Disk Device] B, BR, BRR, Welded B  
 HolderDesignation: FA-7R, FA1,2,3,4,5,6,7,8,9,UA-2,3,5,6  
 Capacity Tests: Sec. UD at National Board Testing Lab on September 15, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.710 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.189 in <sup>2</sup>			80-30000 psi		UD
0.725 in		0.34 in <sup>2</sup>			900-20000 psi		UD
1 NPS		0.801 in <sup>2</sup>			40-12000 psi		UD
1.5 NPS		1.76 in <sup>2</sup>			26-6000 psi	Air	UD
10 NPS		78.85 in <sup>2</sup>			4-1400 psi		UD
12 NPS		112.5 in <sup>2</sup>			4-1000 psi		UD
14 NPS		137.9 in <sup>2</sup>			3-750 psi		UD
16 NPS		182.7 in <sup>2</sup>			3-500 psi		UD
18 NPS		233.7 in <sup>2</sup>			3-475 psi		UD
2 NPS		3.33 in <sup>2</sup>			16-6000 psi		UD
20 NPS		291 in <sup>2</sup>			2-450 psi		UD
24 NPS		424.6 in <sup>2</sup>			2-230 psi		UD
3 NPS		6.514 in <sup>2</sup>			12-6000 psi		UD
30 NPS		672 in <sup>2</sup>			2-184 psi		UD
32 NPS		767 in <sup>2</sup>			2-181 psi		UD
36 NPS		976 in <sup>2</sup>			6-160 psi		UD
4 NPS		11.82 in <sup>2</sup>			9-6000 psi		UD

40 NPS	1210 in²	6-145 psi	UD
42 NPS	1336 in²	6-138 psi	UD
44 NPS	1469 in²	6-132 psi	UD
6 NPS	28.84 in²	7-3600 psi	UD
8 NPS	49.9 in²	5-3600 psi	UD

Design Name: BV, BRV, BSV, BRSV

NBCert #

77026

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UD

08/04/2026

#### Design Type

[Rupture Disk Device] BV, BRV, BSV, BRSV  
 HolderDesignation: FA-7R, FA-7,FA-1,2,3,4,5,6,7,8,9,UA-2,3,5,6  
 Capacity Tests: Sec. UD at National Board Testing Lab on July 13, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.800 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in²			145-12000 psi	Air	UD
1.5 NPS		1.44 in²			95-6000 psi	Air	UD
10 NPS		70.88 in²			14-1400 psi		UD
12 NPS		101.5 in²			12-1000 psi		UD
14 NPS		130.3 in²			11-750 psi		UD
16 NPS		176.7 in²			9-500 psi		UD
18 NPS		202.4 in²			8-475 psi		UD
2 NPS		2.24 in²			55-6000 psi	Air	UD
20 NPS		280 in²			8-450 psi		UD
24 NPS		380.1 in²			37-230 psi		UD
3 NPS		5.41 in²			41-6000 psi		UD
30 NPS		615.7 in²			20-184 psi		UD
32 NPS		728 in²			31-181 psi		UD
36 NPS		927 in²			28-160 psi		UD
4 NPS		9.62 in²			31-6000 psi		UD
40 NPS		1149 in²			25-145 psi		UD
42 NPS		1269 in²			24-138 psi		UD
44 NPS		1395 in²			23-132 psi		UD
6 NPS		23.76 in²			23-3600 psi		UD
8 NPS		44.18 in²			18-3600 psi		UD

Design Name:	BV, BRV, BSV, BRSV-LTF	NBCert #	77880
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/15/2028

### Design Type

[Rupture Disk Device] BV, BRV, BSV, BRSV-LTF  
HolderDesignation: Lo-to-Flo  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 14, 2005  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
Certified Value: 2.470 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in <sup>2</sup>			40-12000 psi		UD
1.5 NPS		1.44 in <sup>2</sup>			26-6000 psi		UD
10 NPS		70.88 in <sup>2</sup>			4-1400 psi		UD
12 NPS		101.5 in <sup>2</sup>			4-1000 psi		UD
14 NPS		130.3 in <sup>2</sup>			3-750 psi		UD
16 NPS		176.7 in <sup>2</sup>			3-500 psi		UD
18 NPS		202.4 in <sup>2</sup>			3-475 psi		UD
2 NPS		2.24 in <sup>2</sup>			16-6000 psi		UD
20 NPS		280 in <sup>2</sup>			2-450 psi		UD
24 NPS		380.1 in <sup>2</sup>			2-230 psi		UD
3 NPS		5.41 in <sup>2</sup>			12-6000 psi		UD
30 NPS		615.8 in <sup>2</sup>			2-184 psi		UD
32 NPS		728 in <sup>2</sup>			6-181 psi		UD
36 NPS		927 in <sup>2</sup>			6-160 psi		UD
4 NPS		9.62 in <sup>2</sup>			9-6000 psi		UD
40 NPS		1149 in <sup>2</sup>			6-145 psi		UD
42 NPS		1269 in <sup>2</sup>			6-138 psi		UD
44 NPS		1395 in <sup>2</sup>			6-132 psi		UD
6 NPS		23.76 in <sup>2</sup>			7-3600 psi		UD
8 NPS		44.18 in <sup>2</sup>			5-3600 psi		UD

Design Name:	BV,BRV,BSV,BRSV (liquid)	NBCert #	77273
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/06/2026

## Design Type

[Rupture Disk Device] BV,BRV,BSV,BRSV (liquid)  
 HolderDesignation: FA-7R, FA-1 - FA-9,UA-,3,5,6  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 1, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 2.450 Unitless  
 Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in <sup>2</sup>			145-12000 psi		UD
1.5 NPS		1.44 in <sup>2</sup>			95-6000 psi		UD
10 NPS		70.88 in <sup>2</sup>			14-1400 psi		UD
12 NPS		101.5 in <sup>2</sup>			12-1000 psi		UD
14 NPS		130.3 in <sup>2</sup>			11-750 psi		UD
16 NPS		176.7 in <sup>2</sup>			9-500 psi		UD
18 NPS		202.4 in <sup>2</sup>			8-475 psi		UD
2 NPS		2.24 in <sup>2</sup>			55-6000 psi		UD
20 NPS		280 in <sup>2</sup>			8-450 psi		UD
24 NPS		380.1 in <sup>2</sup>			37-230 psi		UD
3 NPS		5.41 in <sup>2</sup>			41-6000 psi		UD
30 NPS		615.8 in <sup>2</sup>			20-184 psi		UD
32 NPS		728 in <sup>2</sup>			31-181 psi		UD
36 NPS		927 in <sup>2</sup>			28-160 psi		UD
4 NPS		9.62 in <sup>2</sup>			31-6000 psi		UD
40 NPS		1149 in <sup>2</sup>			25-145 psi		UD
42 NPS		1269 in <sup>2</sup>			24-138 psi		UD
44 NPS		1395 in <sup>2</sup>			23-132 psi		UD
6 NPS		23.76 in <sup>2</sup>			23-3600 psi		UD
8 NPS		44.18 in <sup>2</sup>			18-3600 psi		UD

Design Name: CSI

NBCert # 77565

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/19/2028

## Design Type

[Rupture Disk Device] CSI  
 HolderDesignation: CSR-7RS, CSR-7FS, CSI-7RS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 30, 2000  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.620 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.5 NPS	1.5 NPS	1.89 in <sup>2</sup>			50-800 psi		UD

1-1 NPS	1 NPS	0.86 in <sup>2</sup>			70-800 psi		UD
2-2 NPS	2 NPS	3.36 in <sup>2</sup>			50-800 psi	Air	UD
3-3 NPS	3 NPS	7.29 in <sup>2</sup>			45-800 psi		UD
4-4 NPS	4 NPS	11.2 in <sup>2</sup>			45-800 psi		UD
6-6 NPS	6 NPS	22.65 in <sup>2</sup>			30-800 psi		UD
8-8 NPS	8 NPS	42.72 in <sup>2</sup>			30-800 psi		UD
0.75-0.75 NPS	0.75 NPS	0.5 in <sup>2</sup>	0 in	0 in	70-800 psi	Air	UD
10-10 NPS	10 NPS	66.3 in <sup>2</sup>	0 in	0 in	18-800 psi		UV

Design Name:	CSI (liquid)	NBCert #	78162
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/14/2027

### Design Type

[Rupture Disk Device] CSI (liquid)  
HolderDesignation: CSR-7RS, CSR-7FS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 23, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 3.090 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.5 NPS	1.5 NPS	1.89 in <sup>2</sup>			50-800 psi		UD
1-1 NPS	1 NPS	0.86 in <sup>2</sup>			70-800 psi		UD
2-2 NPS	2 NPS	3.36 in <sup>2</sup>			50-800 psi		UD
3-3 NPS	3 NPS	7.29 in <sup>2</sup>			45-800 psi		UD
4-4 NPS	4 NPS	11.2 in <sup>2</sup>			45-800 psi		UD
6-6 NPS	6 NPS	22.65 in <sup>2</sup>			30-800 psi		UD
8-8 NPS	8 NPS	42.72 in <sup>2</sup>			30-800 psi		UD
0.75-0.75 NPS	0.75 NPS	0.5 in <sup>2</sup>	0 in	0 in	70-800 psi	Water	UD
10-10 NPS	10 NPS	66.3 in <sup>2</sup>	0 in	0 in	18-800 psi		UV

Design Name:	CSR	NBCert #	77004
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/10/2025

### Design Type

[Rupture Disk Device] CSR  
HolderDesignation: CSR-7RS, CSR-7FS, CSI-7RS  
Capacity Tests: Sec. UD at National Board Testing Lab on July 13, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.000 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			120-800 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			50-800 psi		UD
2 NPS		3.35 in <sup>2</sup>			50-800 psi		UD
3 NPS		7.39 in <sup>2</sup>			50-800 psi		UD
4 NPS		12.73 in <sup>2</sup>			50-800 psi		UD
6 NPS		28.89 in <sup>2</sup>			30-800 psi		UD
8 NPS		50.03 in <sup>2</sup>			50-800 psi		UD

Design Name: CSR (liquid) NBCert # 77093

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/03/2025

#### Design Type

[Rupture Disk Device] CSR (liquid)  
HolderDesignation: CSR-7RS, CRS-7FS, CSI-7RS  
Capacity Tests: Sec. UD at National Board Testing Lab on September 15, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 3.190 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			120-800 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			50-800 psi		UD
2 NPS		3.35 in <sup>2</sup>			50-800 psi		UD
3 NPS		7.39 in <sup>2</sup>			50-800 psi		UD
4 NPS		12.73 in <sup>2</sup>			50-800 psi		UD
6 NPS		28.89 in <sup>2</sup>			30-800 psi		UD
8 NPS		50.03 in <sup>2</sup>			50-800 psi		UD

Design Name: D Series (liquid) DR, DRR NBCert # 77352

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	03/01/2027

#### Design Type

[Rupture Disk Device] D Series (liquid) DR, DRR  
HolderDesignation: FA-7R, FA-1 - FA-9,UA-2,3,5,6, FF-\*  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 28, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 1.300 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.801 in <sup>2</sup>			44-2000 psi		UD
1.5 NPS		1.76 in <sup>2</sup>			31-1400 psi		UD
10 NPS		78.8 in <sup>2</sup>			4-480 psi		UD
12 NPS		112.5 in <sup>2</sup>			3-1000 psi		UD
14 NPS		137.9 in <sup>2</sup>			3-350 psi		UD
16 NPS		182.7 in <sup>2</sup>			3-300 psi		UD
18 NPS		233.7 in <sup>2</sup>			3-270 psi		UD
2 NPS		3.33 in <sup>2</sup>			15-1100 psi		UD
20 NPS		291 in <sup>2</sup>			3-240 psi		UD
24 NPS		424.6 in <sup>2</sup>			3-200 psi		UD
28 NPS		584 in <sup>2</sup>			3-170 psi	Air	UD
3 NPS		6.51 in <sup>2</sup>			11-900 psi		UD
30 NPS		672 in <sup>2</sup>			3-170 psi		UD
32 NPS		767 in <sup>2</sup>			3-170 psi		UD
36 NPS		976 in <sup>2</sup>			3-170 psi		UD
4 NPS		11.8 in <sup>2</sup>			8-830 psi		UD
40 NPS		1210 in <sup>2</sup>			3-170 psi		UD
42 NPS		1336 in <sup>2</sup>			3-170 psi		UD
44 NPS		1465 in <sup>2</sup>			3-170 psi		UD
6 NPS		28.84 in <sup>2</sup>			6-640 psi		UD
8 NPS		49.9 in <sup>2</sup>			5-590 psi		UD

Design Name:	DV, D, DR, DRR, DRV	NBCert #	77048
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	10/03/2025
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Design Type
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[Rupture Disk Device] DV, D, DR, DRR, DRV  
HolderDesignation: FA-7R, FA-1F - 9F, UA-2,3,5,6, FF-\*  
Capacity Tests: Sec. UD at National Board Testing Lab on September 15, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.190 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.69 in <sup>2</sup>			44-2000 psi		UD
1.5 NPS		1.62 in <sup>2</sup>			31-1400 psi		UD
10 NPS		74.6 in <sup>2</sup>			4-480 psi		UD
12 NPS		106 in <sup>2</sup>			3-400 psi		UD
14 NPS		135 in <sup>2</sup>			3-350 psi		UD
16 NPS		176 in <sup>2</sup>			3-300 psi		UD



18 NPS	223 in <sup>2</sup>	3-270 psi	UD
2 NPS	2.95 in <sup>2</sup>	15-1100 psi	UD
20 NPS	277 in <sup>2</sup>	3-240 psi	UD
24 NPS	397 in <sup>2</sup>	3-200 psi	UD
28 NPS	NPS 584 in <sup>2</sup>	3-170 psi	Air UD
3 NPS	6.49 in <sup>2</sup>	11-900 psi	UD
30 NPS	661 in <sup>2</sup>	3-170 psi	UD
36 NPS	907 in <sup>2</sup>	3-170 psi	UD
4 NPS	11 in <sup>2</sup>	8-830 psi	UD
40 NPS	1120 in <sup>2</sup>	3-170 psi	UD
42 NPS	1234 in <sup>2</sup>	3-170 psi	UD
44 NPS	1355 in <sup>2</sup>	3-170 psi	UD
6 NPS	25.9 in <sup>2</sup>	6-640 psi	UD
8 NPS	47.1 in <sup>2</sup>	5-590 psi	UD

Design Name: DV, DRV, DSV, DRSV (liquids) NBCert # 77734

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	06/21/2030

#### Design Type

[Rupture Disk Device] DV, DRV, DSV, DRSV (liquids)  
HolderDesignation: FA-7R,FA-1F - FA-9F, UA-2,3,5,6, FF-\*  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 11, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 2.600 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in <sup>2</sup>			44-2000 psi		UD
1.5 NPS		1.44 in <sup>2</sup>			31-1400 psi		UD
10 NPS		70.88 in <sup>2</sup>			4-480 psi		UD
12 NPS		101.5 in <sup>2</sup>			3-1000 psi		UD
14 NPS		130.3 in <sup>2</sup>			3-350 psi		UD
16 NPS		176.7 in <sup>2</sup>			3-300 psi		UD
18 NPS		202.3 in <sup>2</sup>			3-270 psi		UD
2 NPS		2.24 in <sup>2</sup>			15-1100 psi		UD
20 NPS		280 in <sup>2</sup>			3-240 psi		UD
24 NPS		380.1 in <sup>2</sup>			3-200 psi		UD
28 NPS		584 in <sup>2</sup>			3-170 psi	Air	UD
3 NPS		5.41 in <sup>2</sup>			11-900 psi		UD
30 NPS		615.7 in <sup>2</sup>			3-170 psi		UD
32 NPS		728 in <sup>2</sup>			3-170 psi		UD
36 NPS		927 in <sup>2</sup>			3-170 psi		UD

4 NPS	9.62 in <sup>2</sup>	8-830 psi	UD
40 NPS	1149 in <sup>2</sup>	3-170 psi	UD
42 NPS	1269 in <sup>2</sup>	3-170 psi	UD
44 NPS	1395 in <sup>2</sup>	3-170 psi	UD
6 NPS	23.76 in <sup>2</sup>	6-640 psi	UD
8 NPS	44.18 in <sup>2</sup>	5-590 psi	UD

Design Name:	ECR	NBCert #	77071
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	11/25/2025

Design Type
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[Rupture Disk Device] ECR  
HolderDesignation: EC-7RS  
Capacity Tests: Sec. UD at National Board Testing Lab on July 2, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.580 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			2-180 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			2-80 psi		UD
10 NPS		66.3 in <sup>2</sup>			1-15 psi		UD
12 NPS		94.7 in <sup>2</sup>			1-15 psi		UD
14 NPS		118 in <sup>2</sup>			1-15 psi		UD
16 NPS		154 in <sup>2</sup>			1-15 psi		UD
18 NPS		195 in <sup>2</sup>			1-15 psi		UD
2 NPS		3.36 in <sup>2</sup>			2-80 psi		UD
20 NPS		241 in <sup>2</sup>			1-15 psi		UD
24 NPS		348 in <sup>2</sup>			1-15 psi		UD
3 NPS		7.3 in <sup>2</sup>			1-50 psi		UD
4 NPS		12.1 in <sup>2</sup>			1-50 psi		UD
6 NPS		25.4 in <sup>2</sup>			1-50 psi		UD
8 NPS		43.6 in <sup>2</sup>			1-15 psi		UD

Design Name:	FRB (welded cassette)	NBCert #	77835
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	04/09/2026

**Design Type**

[Rupture Disk Device] FRB (welded cassette)  
HolderDesignation: N/A  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on February 26, 2004  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 6.800 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375 NPS		0.09 in <sup>2</sup>			60-400 psi		UD

Design Name:	FRS	NBCert #	77284
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/22/2027

**Design Type**

[Rupture Disk Device] FRS  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, S90-7R, S90-7R-TR, SRI-7RS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 23, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.800 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			13.5-150 psi		UD
1.5 NPS		1.94 in <sup>2</sup>			11.5-70 psi		UD
2 NPS		3.36 in <sup>2</sup>			11.5-50 psi		UD

Design Name:	FVA	NBCert #	77925
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/02/2025

**Design Type**

[Rupture Disk Device] FVA  
HolderDesignation: FVA  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 7, 2008  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.840 Unitless; Certification Provisions: Kd Certified Rupture Disk (Prev. Code Case 2395)  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.049 in <sup>2</sup>			115-1800 psi	Air	UD
0.375 NPS		0.11 in <sup>2</sup>			115-1800 psi	Air	UD
0.5 NPS		0.196 in <sup>2</sup>			115-1800 psi	Air	UD
0.75 NPS		0.442 in <sup>2</sup>			100-1000 psi	Air	UD

1 NPS	0.785 in <sup>2</sup>	90-1000 psi	Air	UD
1.5 NPS	1.77 in <sup>2</sup>	85-1000 psi	Air	UD

Design Name:	GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS	NBCert #	77611
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	01/04/2029
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Design Type
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[Rupture Disk Device] GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS  
HolderDesignation: GR-C, FM-C, not req'd for -SM  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on November 22, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.950 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.5 in <sup>2</sup>			10-300 psi	Air	UD
3 NPS		5.29 in <sup>2</sup>			10-175 psi		UD
4 NPS		9.78 in <sup>2</sup>			10-150 psi		UD
6 NPS		22.5 in <sup>2</sup>			10-75 psi		UD
48.3 DN	DN	2.38 in <sup>2</sup>	0 in	0 in	10-300 psi		UD
60.3 DN	DN	3.85 in <sup>2</sup>	0 in	0 in	10-175 psi		UD
76.1 DN	DN	6.33 in <sup>2</sup>	0 in	0 in	10-175 psi		UD

Design Name:	GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS (liquids)	NBCert #	78195
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	01/13/2028
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Design Type
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[Rupture Disk Device] GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS (liquids)  
HolderDesignation: GR-C, FM-C (not req'd for SM)  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 5, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 2.750 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.5 in <sup>2</sup>			10-300 psi		UD
3 NPS		5.29 in <sup>2</sup>			10-175 psi		UD
4 NPS		9.78 in <sup>2</sup>			10-150 psi		UD
6 NPS		22.5 in <sup>2</sup>			10-75 psi		UD
48.3 DN	DN	2.38 in <sup>2</sup>	0 in	0 in	10-300 psi		UD
60.3 DN	DN	3.85 in <sup>2</sup>	0 in	0 in	10-300 psi		UD
76.1 DN	DN	6.33 in <sup>2</sup>	0 in	0 in	10-300 psi		UD

Design Name: GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2" liquids)		NBCert # 78207
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/14/2028
Design Type		
[Rupture Disk Device] GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2" liquids) HolderDesignation: GR-C, FM-C, not req'd for -SM Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 25, 2015 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl Certified Value: 1.420 Unitless Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, LLC {BSB}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.7 in <sup>2</sup>			10-300 psi	Water	UD

Design Name: GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2")		NBCert # 77420
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	03/24/2027
Design Type		
[Rupture Disk Device] GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2") HolderDesignation: GR-C, FM-C , not req'd for -SM Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on January 10, 2000 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg Certified Value: 1.250 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, LLC {BSB}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.7 in <sup>2</sup>			10-300 psi	Air	UD

Design Name: GFN, GFA, XN, XN-85		NBCert # 77060
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/18/2025
Design Type		
[Rupture Disk Device] GFN, GFA, XN, XN-85 HolderDesignation: NF-7RS, NF-7R, NFI-7RS Capacity Tests: Sec. UD at National Board Testing Lab on December 18, 1998 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 0.550 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, LLC {BSB}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			113-1800 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			81-1800 psi		UD

10 NPS	78.8 in <sup>2</sup>	45-1300 psi	UD
12 NPS	111.9 in <sup>2</sup>	41-1100 psi	UD
14 NPS	137.9 in <sup>2</sup>	37-750 psi	UD
16 NPS	176.7 in <sup>2</sup>	35-270 psi	UD
18 NPS	223.3 in <sup>2</sup>	33-240 psi	UD
2 NPS	3.36 in <sup>2</sup>	68-1800 psi	UD
20 NPS	277.9 in <sup>2</sup>	32-213 psi	UD
24 NPS	402 in <sup>2</sup>	30-177 psi	UD
3 NPS	7.39 in <sup>2</sup>	54-1600 psi	UD
4 NPS	12.7 in <sup>2</sup>	45-1400 psi	UD
6 NPS	28.9 in <sup>2</sup>	36-1400 psi	UD
8 NPS	50 in <sup>2</sup>	53-1300 psi	UD

Design Name: GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (1") NBCert # 77105

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 04/09/2026

#### Design Type

[Rupture Disk Device] GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (1")  
HolderDesignation: GRC  
Capacity Tests: Sec. UD at National Board Testing Lab on December 19, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
Certified Value:19.140 Unitless  
Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.2 in <sup>2</sup>			38-175 psi		UD

Design Name: GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (1.5") NBCert # 77116

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 04/09/2026

#### Design Type

[Rupture Disk Device] GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (1.5")  
HolderDesignation: GRC  
Capacity Tests: Sec. UD at National Board Testing Lab on December 18, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 9.920 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		0.79 in <sup>2</sup>			13.5-200 psi		UD

Design Name: GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (2")		NBCert #	77127
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	12/19/2025
Design Type			
[Rupture Disk Device] GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (2") HolderDesignation: GRC-C, FM-C, FT-C Capacity Tests: Sec. UD at National Board Testing Lab on December 19, 1998 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl Certified Value: 4.760 Unitless Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, LLC {BSB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		1.77 in <sup>2</sup>			11.5-150 psi		UD

Design Name:	GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW 1 1/2" Liquid	NBCert #	77239
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UD	05/12/2026	
Design Type			
[Rupture Disk Device] GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW 1 1/2" Liquid HolderDesignation: GR-C Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 26, 1999 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl Certified Value:11.500 Unitless Media - Test: Air/Gas; Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, LLC {BSB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		0.79 in <sup>2</sup>			13.5-200 psi		UD

Design Name:	GLR-S, GLR-SM, GLR-SE, GLR-SW 1.5 inch	NBCert #	77240
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UD	11/02/2029	
Design Type			
[Rupture Disk Device] GLR-S, GLR-SM, GLR-SE, GLR-SW 1.5 inch HolderDesignation: GR-C, FM-C, FT-C (Not Required for SM or SW) Capacity Tests: Sec. UD at National Board Testing Lab on September 19, 2023 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl Certified Value:13.410 Unitless; (alternate medium): 0.000 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, LLC {BSB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	1.5 NPS	0.79 in <sup>2</sup>			175-1500 psi		UD

Design Name:	JRS	NBCert #	77015
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	03/27/2026

### Design Type

[Rupture Disk Device] JRS  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRI-7RS  
Capacity Tests: Sec. UD at National Board Testing Lab on July 10, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.310 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			22-180 psi		UD
1.5 NPS		1.89 in <sup>2</sup>			20-150 psi		UD
10 NPS		68.65 in <sup>2</sup>			12-36 psi		UD
12 NPS		102.28 in <sup>2</sup>			12-33 psi		UD
14 NPS		121.86 in <sup>2</sup>			9-30 psi		UD
16 NPS		156 in <sup>2</sup>			7-28 psi		UD
18 NPS		198 in <sup>2</sup>			6-26 psi		UD
2 NPS		3.35 in <sup>2</sup>			18-120 psi		UD
20 NPS		246 in <sup>2</sup>			5-24 psi		UD
24 NPS		357 in <sup>2</sup>			5-22 psi		UD
3 NPS		6.53 in <sup>2</sup>			16-80 psi		UD
30 NPS		592 in <sup>2</sup>			5-14 psi		UD
32 NPS		706.9 in <sup>2</sup>			5-14 psi		UD
36 NPS		868 in <sup>2</sup>			5-14 psi		UD
4 NPS		11.86 in <sup>2</sup>			14-70 psi		UD
42 NPS		1111 in <sup>2</sup>			5-14 psi		UD
6 NPS		25.08 in <sup>2</sup>			12-50 psi		UD
8 NPS		42.07 in <sup>2</sup>			12-42 psi		UD
28 NPS	NPS	513 in <sup>2</sup>	0 in	0 in	5-18 psi		UD

Design Name:	MRB	NBCert #	77824
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	05/20/2026



## Design Type

[Rupture Disk Device] MRB  
 HolderDesignation: N/A  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 5, 2004  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 5.300 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.29 in		0.046 in <sup>2</sup>			4300-55000 psi		UD
0.3 in		0.05 in <sup>2</sup>			4300-55000 psi		UD
0.375 NPS		0.08 in <sup>2</sup>			4300-55000 psi		UD
0.5 NPS		0.14 in <sup>2</sup>			3800-54000 psi		UD
0.625 NPS		0.22 in <sup>2</sup>			3500-52000 psi		UD
0.75 NPS		0.31 in <sup>2</sup>			2900-49000 psi		UD
0.875 in		0.52 in <sup>2</sup>			2900-49000 psi		UD
1 NPS		0.55 in <sup>2</sup>			2500-43000 psi		UD
1.125 in		0.69 in <sup>2</sup>			2500-43000 psi		UD
1.25 NPS		0.86 in <sup>2</sup>			2500-43000 psi		UD
1.5 NPS		1.24 in <sup>2</sup>			1900-35000 psi		UD
10 NPS		55 in <sup>2</sup>			400-12000 psi		UD
2 NPS		2.2 in <sup>2</sup>			1800-29000 psi		UD
3 NPS		4.5 in <sup>2</sup>			1500-21000 psi		UD
3.25 in		5.2 in <sup>2</sup>			1500-21000 psi		UD
4 NPS		8.8 in <sup>2</sup>			1500-16000 psi		UD
6 NPS		19.8 in <sup>2</sup>			1000-14000 psi		UD
8 NPS		35.2 in <sup>2</sup>			600-14000 psi		UD

Design Name: PLD

NBCert # 78173

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/14/2027

## Design Type

[Rupture Disk Device] PLD  
 HolderDesignation: FA-\*, FF-\*, UA-2, 3, 4, 5, 6  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 20, 2015  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 4.200 Unitless  
 Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.69 in <sup>2</sup>			44-2000 psi		UD
1.5 NPS		1.62 in <sup>2</sup>			31-1400 psi		UD
10 NPS		74.6 in <sup>2</sup>			4-480 psi		UD

12 NPS	106 in <sup>2</sup>	3-400 psi	UD
14 NPS	135 in <sup>2</sup>	3-350 psi	UD
16 NPS	176 in <sup>2</sup>	3-300 psi	UD
18 NPS	223 in <sup>2</sup>	3-270 psi	UD
2 NPS	2.95 in <sup>2</sup>	15-1100 psi	UD
20 NPS	277 in <sup>2</sup>	3-240 psi	UD
24 NPS	397 in <sup>2</sup>	3-200 psi	UD
28 NPS	584 in <sup>2</sup>	3-180 psi	UD
3 NPS	6.49 in <sup>2</sup>	11-900 psi	UD
30 NPS	661 in <sup>2</sup>	3-170 psi	UD
36 NPS	907 in <sup>2</sup>	3-170 psi	UD
4 NPS	11 in <sup>2</sup>	8-830 psi	UD
40 NPS	1120 in <sup>2</sup>	3-170 psi	UD
42 NPS	1234 in <sup>2</sup>	3-170 psi	UD
44 NPS	1355 in <sup>2</sup>	3-170 psi	UD
6 NPS	25.9 in <sup>2</sup>	6-640 psi	UD
8 NPS	47.1 in <sup>2</sup>	5-590 psi	UD

Design Name:	RB-90	NBCert #	77138
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	05/02/2028

Design Type
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[Rupture Disk Device] RB-90  
HolderDesignation: RB-7R, RB-7F, RB-7FF, RB-7FS  
Capacity Tests: Sec. UD at National Board Testing Lab on February 19, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 3.470 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.831 in <sup>2</sup>			30-1800 psi		UD
1.5 NPS		1.805 in <sup>2</sup>			25-1700 psi		UD
10 NPS		67.62 in <sup>2</sup>			15-800 psi		UD
12 NPS		101.8 in <sup>2</sup>			15-800 psi		UD
14 NPS		121.7 in <sup>2</sup>			15-800 psi		UD
16 NPS		162.8 in <sup>2</sup>			15-800 psi		UD
18 NPS		209.99 in <sup>2</sup>			13-700 psi		UD
2 NPS		3.153 in <sup>2</sup>			22-1600 psi		UD
20 NPS		262.9 in <sup>2</sup>			13-700 psi		UD
24 NPS		386.9 in <sup>2</sup>			10-700 psi		UD
26 NPS		465 in <sup>2</sup>			10-700 psi		UD
28 NPS		530.7 in <sup>2</sup>			10-700 psi		UD

3 NPS	6.849 in <sup>2</sup>	21-1500 psi	UD
30 NPS	617.7 in <sup>2</sup>	10-700 psi	UD
32 NPS	698.4 in <sup>2</sup>	10-700 psi	UD
34 NPS	790.1 in <sup>2</sup>	10-700 psi	UD
36 NPS	872.8 in <sup>2</sup>	10-700 psi	UD
4 NPS	11.84 in <sup>2</sup>	20-1500 psi	UD
6 NPS	25.45 in <sup>2</sup>	20-850 psi	UD
8 NPS	47.68 in <sup>2</sup>	15-800 psi	UD

Design Name: RLS DD (liquid) NBCert # 77688

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	06/21/2030

#### Design Type

[Rupture Disk Device] RLS DD (liquid)  
 HolderDesignation: SRB-7RS DD, SRB-7RS-TR DD, SRB-7FS DD, SRB-7FS-TR DD, S90-7R-TR DD  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 24, 2002  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 5.830 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.842 in <sup>2</sup>			125-3900 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			85-1800 psi		UD
10 NPS		73.94 in <sup>2</sup>			35-250 psi		UD
12 NPS		99.06 in <sup>2</sup>			35-150 psi		UD
14 NPS		131.5 in <sup>2</sup>			35-130 psi		UD
16 NPS		172.1 in <sup>2</sup>			25-110 psi		UD
18 NPS		219.5 in <sup>2</sup>			25-90 psi		UD
2 NPS		3.23 in <sup>2</sup>			70-1800 psi		UD
20 NPS		270 in <sup>2</sup>			20-90 psi		UD
3 NPS		6.44 in <sup>2</sup>			55-1600 psi		UD
4 NPS		11.54 in <sup>2</sup>			45-1050 psi		UD
6 NPS		26.44 in <sup>2</sup>			35-650 psi		UD
8 NPS		47.07 in <sup>2</sup>			35-900 psi		UD

Design Name: RLS, RLS Welded Assembly (liquid) NBCert # 77307

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/06/2026

## Design Type

[Rupture Disk Device] RLS, RLS Welded Assembly (liquid)  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, S90-7R, S90-7R-TR, SMR-7R, SRI-7RS, SRB-7RS Special, SRB-QRS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 16, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 5.830 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.5 in <sup>2</sup>			300-6000 psi		UD
1 NPS		0.84 in <sup>2</sup>			125-6000 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			85-5400 psi		UD
10 NPS		73.9 in <sup>2</sup>			35-1200 psi		UD
12 NPS		99 in <sup>2</sup>			35-900 psi		UD
14 NPS		131 in <sup>2</sup>			35-650 psi		UD
16 NPS		172 in <sup>2</sup>			25-550 psi		UD
18 NPS		219 in <sup>2</sup>			25-450 psi		UD
2 NPS		3.23 in <sup>2</sup>			70-4800 psi		UD
20 NPS		270 in <sup>2</sup>			20-350 psi		UD
3 NPS		6.44 in <sup>2</sup>			55-3800 psi		UD
4 NPS		11.54 in <sup>2</sup>			45-2800 psi		UD
6 NPS		26.4 in <sup>2</sup>			35-2000 psi		UD
8 NPS		47 in <sup>2</sup>			35-1600 psi		UD

Design Name: RLS, RLS Welded Assembly NBCert # 77059

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/16/2025

## Design Type

[Rupture Disk Device] RLS, RLS Welded Assembly  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR, SRB-7FS, SRB-7FR-TR, SMR-7R, SRI-7RS, SRB-7RS Special, SRB-QRS  
 Capacity Tests: Sec. UD at National Board Testing Lab on August 12, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 1.140 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.5 in <sup>2</sup>			300-2000 psi		UD
1 NPS		0.84 in <sup>2</sup>			125-2200 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			85-1800 psi		UD
10 NPS		73.9 in <sup>2</sup>			35-250 psi		UD
12 NPS		99 in <sup>2</sup>			35-150 psi		UD
14 NPS		131 in <sup>2</sup>			35-130 psi		UD
16 NPS		172 in <sup>2</sup>			25-110 psi		UD

18 NPS	219 in <sup>2</sup>	25-90 psi	UD
2 NPS	3.23 in <sup>2</sup>	70-1800 psi	UD
20 NPS	270 in <sup>2</sup>	20-90 psi	UD
3 NPS	6.44 in <sup>2</sup>	55-1600 psi	UD
4 NPS	11.54 in <sup>2</sup>	45-1500 psi	UD
6 NPS	26.4 in <sup>2</sup>	35-650 psi	UD
8 NPS	47 in <sup>2</sup>	35-400 psi	UD

Design Name:	S-90 (Inconel)	NBCert #	77206
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 05/12/2026

#### Design Type

[Rupture Disk Device] S-90 (Inconel)  
HolderDesignation: S90-7R, S90-7R-TR, SRB-7RS, SRB-7RS-TR, SMR-7R, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 24, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.230 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			170-1000 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			128-1000 psi		UD
10 NPS		78.8 in <sup>2</sup>			36-700 psi		UD
12 NPS		111 in <sup>2</sup>			33-600 psi		UD
14 NPS		135 in <sup>2</sup>			30-500 psi		UD
16 NPS		176 in <sup>2</sup>			28-200 psi		UD
18 NPS		223 in <sup>2</sup>			26-160 psi		UD
2 NPS		3.36 in <sup>2</sup>			96-1000 psi		UD
20 NPS		277 in <sup>2</sup>			24-142 psi		UD
24 NPS		402 in <sup>2</sup>			22-118 psi		UD
3 NPS		7.39 in <sup>2</sup>			72-1000 psi		UD
30 NPS		672 in <sup>2</sup>			20-80 psi		UD
4 NPS		12.7 in <sup>2</sup>			60-800 psi		UD
6 NPS		28.9 in <sup>2</sup>			48-800 psi		UD
8 NPS		50 in <sup>2</sup>			42-700 psi		UD
40 NPS	NPS	1195 in <sup>2</sup>		0 in	30-250 psi		UD

Design Name:	S90 DD	NBCert #	77712
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 06/21/2030

**Design Type**

[Rupture Disk Device] S90 DD  
HolderDesignation: S90-7R DD, S90-7R-TR DD, SRB-7RS DD, SRB-7RS-TR DD,SRB-7FS DD, SRB-7FS-TR DD  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 14, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.130 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			75-1000 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			54-1000 psi		UD
10 NPS		79.8 in <sup>2</sup>			30-700 psi		UD
12 NPS		111 in <sup>2</sup>			27-600 psi		UD
14 NPS		135 in <sup>2</sup>			25-500 psi		UD
16 NPS		176 in <sup>2</sup>			23-200 psi		UD
18 NPS		223 in <sup>2</sup>			22-160 psi		UD
2 NPS		3.35 in <sup>2</sup>			45-1000 psi		UD
20 NPS		277 in <sup>2</sup>			20-142 psi		UD
24 NPS		402 in <sup>2</sup>			20-118 psi		UD
3 NPS		7.39 in <sup>2</sup>			36-1000 psi		UD
30 NPS		672 in <sup>2</sup>			20-80 psi		UD
4 NPS		12.7 in <sup>2</sup>			30-800 psi		UD
6 NPS		28.8 in <sup>2</sup>			24-800 psi		UD
8 NPS		50 in <sup>2</sup>			35-700 psi		UD

Design Name: S90, S90 Welded Assembly NBCert # 77082

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

12/18/2026

**Design Type**

[Rupture Disk Device] S90, S90 Welded Assembly  
HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR, SMR-7R, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS  
Capacity Tests: Sec. UD at National Board Testing Lab on July 27, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.130 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			75-1000 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			54-1000 psi		UD
10 NPS		78.8 in <sup>2</sup>			30-700 psi		UD
12 NPS		111 in <sup>2</sup>			27-600 psi		UD
14 NPS		135 in <sup>2</sup>			25-500 psi		UD
16 NPS		176 in <sup>2</sup>			23-475 psi		UD

18 NPS		223 in <sup>2</sup>	22-475 psi		UD
2 NPS		3.36 in <sup>2</sup>	45-1000 psi		UD
20 NPS		277 in <sup>2</sup>	20-250 psi		UD
24 NPS		402 in <sup>2</sup>	18-250 psi		UD
28 NPS		583 in <sup>2</sup>	20-250 psi		UD
3 NPS		7.39 in <sup>2</sup>	36-1000 psi		UD
30 NPS		672 in <sup>2</sup>	20-250 psi		UD
4 NPS		12.7 in <sup>2</sup>	30-800 psi		UD
40 NPS	NPS	1195 in <sup>2</sup>	20-250 psi	Air	UD
6 NPS		28.8 in <sup>2</sup>	24-800 psi		UD
8 NPS		50 in <sup>2</sup>	35-700 psi		UD

Design Name:	Scored B -LTF, Scd B-LTF, XB-LTF	NBCert #	78151
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	12/15/2027
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#### Design Type

[Rupture Disk Device] Scored B -LTF, Scd B-LTF, XB-LTF  
HolderDesignation: Lo-To-Flo  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 18, 2014  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 4.770 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.8 in <sup>2</sup>			250-6000 psi		UD
1.5 NPS		1.76 in <sup>2</sup>			200-4000 psi		UD
10 NPS		78.9 in <sup>2</sup>			100-1500 psi		UD
12 NPS		112.5 in <sup>2</sup>			90-1250 psi		UD
14 NPS		137.9 in <sup>2</sup>			80-1000 psi		UD
16 NPS		182.7 in <sup>2</sup>			75-800 psi		UD
18 NPS		233.7 in <sup>2</sup>			70-600 psi		UD
2 NPS		3.33 in <sup>2</sup>			175-3500 psi		UD
20 NPS		291 in <sup>2</sup>			65-500 psi		UD
24 NPS		424.6 in <sup>2</sup>			60-250 psi		UD
3 NPS		6.51 in <sup>2</sup>			150-3000 psi		UD
4 NPS		11.82 in <sup>2</sup>			135-2500 psi		UD
6 NPS		28.8 in <sup>2</sup>			125-2000 psi		UD
8 NPS		49.9 in <sup>2</sup>			110-1750 psi		UD

Design Name:	SKA	NBCert #	77846
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 11/17/2026

#### Design Type

[Rupture Disk Device] SKA  
 HolderDesignation: Integral one piece design  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 13, 2004  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.046 in <sup>2</sup>	0.25 in		50-750 psi	Air	UD
0.375 NPS		0.085 in <sup>2</sup>	0.375 in		50-750 psi		UD
0.5 NPS		0.182 in <sup>2</sup>	0.5 in		35-700 psi		UD

Design Name:	SVI Assembly	NBCert #	77723
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 06/20/2030

#### Design Type

[Rupture Disk Device] SVI Assembly  
 HolderDesignation: SVI Assembly  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 10, 2002  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value:11.350 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.37 in <sup>2</sup>			125-1000 psi		UD
10 NPS		61 in <sup>2</sup>			35-700 psi		UD
2 NPS		2.26 in <sup>2</sup>			90-1000 psi		UD
3 NPS		5.11 in <sup>2</sup>			75-1000 psi		UD
4 NPS		8.66 in <sup>2</sup>			60-800 psi		UD
6 NPS		20.92 in <sup>2</sup>			50-700 psi		UD
8 NPS		37 in <sup>2</sup>			40-700 psi		UD

Design Name:	W-6 XB	NBCert #	78487
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 12/10/2025



**Design Type**

[Rupture Disk Device] W-6 XB  
HolderDesignation: Integral  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on December 5, 2019  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 2.140 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	0.5 NPS	0.19 in <sup>2</sup>			750-5000 psi		UD

Design Name: Welded 1" FRB, w. 1/2" VCR connections NBCert # 77778

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

10/02/2030

**Design Type**

[Rupture Disk Device] Welded 1" FRB, w. 1/2" VCR connections  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 4, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value:16.950 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.5 NPS	0.126 in <sup>2</sup>			15-150 psi		UD

Design Name: Welded FRB w/ 3/4" VCR Connections NBCert # 77936

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

11/08/2029

**Design Type**

[Rupture Disk Device] Welded FRB w/ 3/4" VCR Connections  
HolderDesignation: N/A  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on March 16, 2011  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 5.000 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.2 in <sup>2</sup>			15-150 psi		UD

Design Name: Welded QRB NBCert # 78375

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

10/05/2029

Design Type

[Rupture Disk Device] Welded QRB  
HolderDesignation: Integral  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 17, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.850 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.049 in²			800-16000 psi		UD
0.375 NPS		0.11 in²			800-14000 psi		UD
0.5 NPS		0.19 in²			500-10500 psi		UD
0.75 NPS		0.44 in²			350-3000 psi		UD
0.125 NPS		0.024 in²			800-16000 psi	Air	UD3

Design Name:	X 90 Welded	NBCert #	77868
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	06/30/2027

Design Type

[Rupture Disk Device] X 90 Welded  
HolderDesignation: Integral  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 9, 2005  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 6.000 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.34 in²			500-4000 psi		UD

BS & B Safety Systems, Ltd. (BSI)

Limerick, V94 N4V2Ireland

This Company Manufactures or Assembles:

Design Name:	1.5" SLP-S, SLP-SE, SLP-SM, SLP-N, SLP-SS, SLP-SES, SLP-SMS, SLP-NS	NBCert #	78128
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/21/2027

**Design Type**

[Rupture Disk Device] 1.5" SLP-S, SLP-SE, SLP-SM, SLP-N, SLP-SS, SLP-SES, SLP-SMS, SLP-NS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 12, 2014  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
Certified Value: 6.700 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.08 in <sup>2</sup>			15-70 psi		UD

Design Name:	2" BV	NBCert #	77486
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/09/2028

**Design Type**

[Rupture Disk Device] 2" BV  
HolderDesignation: FA-7R, FA-1F - 9F, UA-2,3,5,6  
Capacity Tests: Sec. UD at National Board Testing Lab on August 11, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 0.550 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.24 in <sup>2</sup>			16-6000 psi		UD

Design Name:	2" SLP-S, SLP-SE, SLP-SM, SLP-N, SLP-SS, SLP-SES, SLP-SMS, SLP-NS	NBCert #	78139
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/22/2027

**Design Type**

[Rupture Disk Device] 2" SLP-S, SLP-SE, SLP-SM, SLP-N, SLP-SS, SLP-SES, SLP-SMS, SLP-NS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 12, 2014  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
Certified Value: 4.900 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.04 in <sup>2</sup>			6-55 psi		UD

Design Name:	3" SLP-S, SLP-SE, SLP-SM, SLP-N, SLP-SS, SLP-SES, SLP-SMS, SLP-NS	NBCert #	78140
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/22/2027

**Design Type**

[Rupture Disk Device] 3" SLP-S, SLP-SE, SLP-SM, SLP-N, SLP-SS, SLP-SES, SLP-SMS, SLP-NS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 12, 2014  
 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
 Certified Value: 9.900 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS		3.55 in <sup>2</sup>			5-40 psi		UD

Design Name: B, BR, BRR (liquid) NBCert # 77318

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/21/2028

**Design Type**

[Rupture Disk Device] B, BR, BRR (liquid)  
 HolderDesignation: FA-7R, FA-1 - FA9, UA-2,3,5,6  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 12, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 1.470 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.189 in <sup>2</sup>			80-30000 psi		UD
1 NPS		0.801 in <sup>2</sup>			40-12000 psi		UD
1.5 NPS		1.76 in <sup>2</sup>			26-6000 psi		UD
10 NPS		78.85 in <sup>2</sup>			4-1400 psi		UD
12 NPS		112.5 in <sup>2</sup>			4-1000 psi		UD
14 NPS		137.9 in <sup>2</sup>			3-750 psi		UD
16 NPS		182.7 in <sup>2</sup>			3-500 psi		UD
18 NPS		233.7 in <sup>2</sup>			3-475 psi		UD
2 NPS		3.33 in <sup>2</sup>			16-6000 psi		UD
20 NPS		291 in <sup>2</sup>			2-450 psi		UD
24 NPS		424.6 in <sup>2</sup>			2-230 psi		UD
3 NPS		6.514 in <sup>2</sup>			12-6000 psi		UD
30 NPS		672 in <sup>2</sup>			2-184 psi		UD
32 NPS		767 in <sup>2</sup>			2-181 psi		UD
36 NPS		976 in <sup>2</sup>			6-160 psi		UD
4 NPS		11.82 in <sup>2</sup>			9-6000 psi		UD
40 NPS		1210 in <sup>2</sup>			6-145 psi		UD
42 NPS		1336 in <sup>2</sup>			3-138 psi		UD
44 NPS		1469 in <sup>2</sup>			6-132 psi		UD
6 NPS		28.84 in <sup>2</sup>			7-3600 psi		UD

Design Name:    B, BR, BRR, Welded B		NBCert #       77037
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/11/2029
Design Type		
[Rupture Disk Device] B, BR, BRR, Welded B HolderDesignation: FA-7R, FA1,2,3,4,5,6,7,8,9,UA-2,3,5,6 Capacity Tests: Sec. UD at National Board Testing Lab on September 15, 1998 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 0.710 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, LLC {BSB}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.189 in <sup>2</sup>			80-30000 psi		UD
0.725 in		0.34 in <sup>2</sup>			900-20000 psi		UD
1 NPS		0.801 in <sup>2</sup>			40-12000 psi		UD
1.5 NPS		1.76 in <sup>2</sup>			26-6000 psi	Air	UD
10 NPS		78.85 in <sup>2</sup>			4-1400 psi		UD
12 NPS		112.5 in <sup>2</sup>			4-1000 psi		UD
14 NPS		137.9 in <sup>2</sup>			3-750 psi		UD
16 NPS		182.7 in <sup>2</sup>			3-500 psi		UD
18 NPS		233.7 in <sup>2</sup>			3-475 psi		UD
2 NPS		3.33 in <sup>2</sup>			16-6000 psi		UD
20 NPS		291 in <sup>2</sup>			2-450 psi		UD
24 NPS		424.6 in <sup>2</sup>			2-230 psi		UD
3 NPS		6.514 in <sup>2</sup>			12-6000 psi		UD
30 NPS		672 in <sup>2</sup>			2-184 psi		UD
32 NPS		767 in <sup>2</sup>			2-181 psi		UD
36 NPS		976 in <sup>2</sup>			6-160 psi		UD
4 NPS		11.82 in <sup>2</sup>			9-6000 psi		UD
40 NPS		1210 in <sup>2</sup>			6-145 psi		UD
42 NPS		1336 in <sup>2</sup>			6-138 psi		UD
44 NPS		1469 in <sup>2</sup>			6-132 psi		UD
6 NPS		28.84 in <sup>2</sup>			7-3600 psi		UD
8 NPS		49.9 in <sup>2</sup>			5-3600 psi		UD

Design Name:    BV,BRV,BSV,BRSV (liquid)		NBCert #       77273
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/05/2028

## Design Type

[Rupture Disk Device] BV,BRV,BSV,BRSV (liquid)  
 HolderDesignation: FA-7R, FA-1 - FA-9,UA-,3,5,6  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 1, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 2.450 Unitless  
 Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in <sup>2</sup>			145-12000 psi		UD
1.5 NPS		1.44 in <sup>2</sup>			95-6000 psi		UD
10 NPS		70.88 in <sup>2</sup>			14-1400 psi		UD
12 NPS		101.5 in <sup>2</sup>			12-1000 psi		UD
14 NPS		130.3 in <sup>2</sup>			11-750 psi		UD
16 NPS		176.7 in <sup>2</sup>			9-500 psi		UD
18 NPS		202.4 in <sup>2</sup>			8-475 psi		UD
2 NPS		2.24 in <sup>2</sup>			55-6000 psi		UD
20 NPS		280 in <sup>2</sup>			8-450 psi		UD
24 NPS		380.1 in <sup>2</sup>			37-230 psi		UD
3 NPS		5.41 in <sup>2</sup>			41-6000 psi		UD
30 NPS		615.8 in <sup>2</sup>			20-184 psi		UD
32 NPS		728 in <sup>2</sup>			31-181 psi		UD
36 NPS		927 in <sup>2</sup>			28-160 psi		UD
4 NPS		9.62 in <sup>2</sup>			31-6000 psi		UD
40 NPS		1149 in <sup>2</sup>			25-145 psi		UD
42 NPS		1269 in <sup>2</sup>			24-138 psi		UD
44 NPS		1395 in <sup>2</sup>			23-132 psi		UD
6 NPS		23.76 in <sup>2</sup>			23-3600 psi		UD
8 NPS		44.18 in <sup>2</sup>			18-3600 psi		UD

Design Name: CSI

NBCert # 77565

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/29/2025

## Design Type

[Rupture Disk Device] CSI  
 HolderDesignation: CSR-7RS, CSR-7FS, CSI-7RS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 30, 2000  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.620 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.5 NPS	1.5 NPS	1.89 in <sup>2</sup>			50-800 psi		UD

1-1 NPS	1 NPS	0.86 in <sup>2</sup>			70-800 psi		UD
2-2 NPS	2 NPS	3.36 in <sup>2</sup>			50-800 psi	Air	UD
3-3 NPS	3 NPS	7.29 in <sup>2</sup>			45-800 psi		UD
4-4 NPS	4 NPS	11.2 in <sup>2</sup>			45-800 psi		UD
6-6 NPS	6 NPS	22.65 in <sup>2</sup>			30-800 psi		UD
8-8 NPS	8 NPS	42.72 in <sup>2</sup>			30-800 psi		UD
0.75-0.75 NPS	0.75 NPS	0.5 in <sup>2</sup>	0 in	0 in	70-800 psi	Air	UD
10-10 NPS	10 NPS	66.3 in <sup>2</sup>	0 in	0 in	18-800 psi		UV

Design Name: CSI (liquid) NBCert # 78162

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/17/2028

#### Design Type

[Rupture Disk Device] CSI (liquid)  
HolderDesignation: CSR-7RS, CSR-7FS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 23, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 3.090 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.5 NPS	1.5 NPS	1.89 in <sup>2</sup>			50-800 psi		UD
1-1 NPS	1 NPS	0.86 in <sup>2</sup>			70-800 psi		UD
2-2 NPS	2 NPS	3.36 in <sup>2</sup>			50-800 psi		UD
3-3 NPS	3 NPS	7.29 in <sup>2</sup>			45-800 psi		UD
4-4 NPS	4 NPS	11.2 in <sup>2</sup>			45-800 psi		UD
6-6 NPS	6 NPS	22.65 in <sup>2</sup>			30-800 psi		UD
8-8 NPS	8 NPS	42.72 in <sup>2</sup>			30-800 psi		UD
0.75-0.75 NPS	0.75 NPS	0.5 in <sup>2</sup>	0 in	0 in	70-800 psi	Water	UD
10-10 NPS	10 NPS	66.3 in <sup>2</sup>	0 in	0 in	18-800 psi		UV

Design Name: DV, DRV, DSV, DRSV (liquids) NBCert # 77734

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/11/2029

#### Design Type

[Rupture Disk Device] DV, DRV, DSV, DRSV (liquids)  
HolderDesignation: FA-7R,FA-1F - FA-9F, UA-2,3,5,6, FF-\*  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 11, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 2.600 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in <sup>2</sup>			44-2000 psi		UD
1.5 NPS		1.44 in <sup>2</sup>			31-1400 psi		UD
10 NPS		70.88 in <sup>2</sup>			4-480 psi		UD
12 NPS		101.5 in <sup>2</sup>			3-1000 psi		UD
14 NPS		130.3 in <sup>2</sup>			3-350 psi		UD
16 NPS		176.7 in <sup>2</sup>			3-300 psi		UD
18 NPS		202.3 in <sup>2</sup>			3-270 psi		UD
2 NPS		2.24 in <sup>2</sup>			15-1100 psi		UD
20 NPS		280 in <sup>2</sup>			3-240 psi		UD
24 NPS		380.1 in <sup>2</sup>			3-200 psi		UD
28 NPS		584 in <sup>2</sup>			3-170 psi	Air	UD
3 NPS		5.41 in <sup>2</sup>			11-900 psi		UD
30 NPS		615.7 in <sup>2</sup>			3-170 psi		UD
32 NPS		728 in <sup>2</sup>			3-170 psi		UD
36 NPS		927 in <sup>2</sup>			3-170 psi		UD
4 NPS		9.62 in <sup>2</sup>			8-830 psi		UD
40 NPS		1149 in <sup>2</sup>			3-170 psi		UD
42 NPS		1269 in <sup>2</sup>			3-170 psi		UD
44 NPS		1395 in <sup>2</sup>			3-170 psi		UD
6 NPS		23.76 in <sup>2</sup>			6-640 psi		UD
8 NPS		44.18 in <sup>2</sup>			5-590 psi		UD

Design Name:	GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS	NBCert #	77611
Manufacturer/Assembler		Designators	Expiration Date

Manufacturer UD 03/16/2026

#### Design Type

[Rupture Disk Device] GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS  
HolderDesignation: GR-C, FM-C, not req'd for -SM  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on November 22, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.950 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.5 in <sup>2</sup>			10-300 psi	Air	UD
3 NPS		5.29 in <sup>2</sup>			10-175 psi		UD
4 NPS		9.78 in <sup>2</sup>			10-150 psi		UD
6 NPS		22.5 in <sup>2</sup>			10-75 psi		UD
48.3 DN	DN	2.38 in <sup>2</sup>	0 in	0 in	10-300 psi		UD
60.3 DN	DN	3.85 in <sup>2</sup>	0 in	0 in	10-175 psi		UD



76.1 DN      DN      6.33 in²      0 in      0 in      10-175 psi      UD

Design Name: GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS (liquids)		NBCert #	78195
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	01/12/2029
Design Type			
[Rupture Disk Device] GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS (liquids)			
HolderDesignation: GR-C, FM-C (not req'd for SM)			
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 5, 2015			
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl			
Certified Value: 2.750 Unitless			
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)			
Set Pressure Definition: Burst Pressure			
Flow Area Configuration: MNFA			
Designed by: BS & B Safety Systems, LLC {BSB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.5 in²			10-300 psi		UD
3 NPS		5.29 in²			10-175 psi		UD
4 NPS		9.78 in²			10-150 psi		UD
6 NPS		22.5 in²			10-75 psi		UD
48.3 DN	DN	2.38 in²	0 in	0 in	10-300 psi		UD
60.3 DN	DN	3.85 in²	0 in	0 in	10-300 psi		UD
76.1 DN	DN	6.33 in²	0 in	0 in	10-300 psi		UD

Design Name: GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2" liquids)		NBCert #	78207
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	01/11/2029
Design Type			
[Rupture Disk Device] GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2" liquids)			
HolderDesignation: GR-C, FM-C, not req'd for -SM			
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 25, 2015			
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl			
Certified Value: 1.420 Unitless			
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)			
Set Pressure Definition: Burst Pressure			
Flow Area Configuration: MNFA			
Designed by: BS & B Safety Systems, LLC {BSB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.7 in²			10-300 psi	Water	UD

Design Name: GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2")		NBCert #	77420
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	03/12/2026

**Design Type**

[Rupture Disk Device] GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2")  
HolderDesignation: GR-C, FM-C , not req'd for -SM  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on January 10, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 1.250 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.7 in <sup>2</sup>			10-300 psi	Air	UD

Design Name:	GFN, GFA, XN, XN-85	NBCert #	77060
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

04/30/2026

**Design Type**

[Rupture Disk Device] GFN, GFA, XN, XN-85  
HolderDesignation: NF-7RS, NF-7R, NFI-7RS  
Capacity Tests: Sec. UD at National Board Testing Lab on December 18, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.550 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			113-1800 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			81-1800 psi		UD
10 NPS		78.8 in <sup>2</sup>			45-1300 psi		UD
12 NPS		111.9 in <sup>2</sup>			41-1100 psi		UD
14 NPS		137.9 in <sup>2</sup>			37-750 psi		UD
16 NPS		176.7 in <sup>2</sup>			35-270 psi		UD
18 NPS		223.3 in <sup>2</sup>			33-240 psi		UD
2 NPS		3.36 in <sup>2</sup>			68-1800 psi		UD
20 NPS		277.9 in <sup>2</sup>			32-213 psi		UD
24 NPS		402 in <sup>2</sup>			30-177 psi		UD
3 NPS		7.39 in <sup>2</sup>			54-1600 psi		UD
4 NPS		12.7 in <sup>2</sup>			45-1400 psi		UD
6 NPS		28.9 in <sup>2</sup>			36-1400 psi		UD
8 NPS		50 in <sup>2</sup>			53-1300 psi		UD

Design Name:	JRS	NBCert #	77015
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

05/26/2027

Design Type

[Rupture Disk Device] JRS  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRI-7RS  
Capacity Tests: Sec. UD at National Board Testing Lab on July 10, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.310 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			22-180 psi		UD
1.5 NPS		1.89 in <sup>2</sup>			20-150 psi		UD
10 NPS		68.65 in <sup>2</sup>			12-36 psi		UD
12 NPS		102.28 in <sup>2</sup>			12-33 psi		UD
14 NPS		121.86 in <sup>2</sup>			9-30 psi		UD
16 NPS		156 in <sup>2</sup>			7-28 psi		UD
18 NPS		198 in <sup>2</sup>			6-26 psi		UD
2 NPS		3.35 in <sup>2</sup>			18-120 psi		UD
20 NPS		246 in <sup>2</sup>			5-24 psi		UD
24 NPS		357 in <sup>2</sup>			5-22 psi		UD
3 NPS		6.53 in <sup>2</sup>			16-80 psi		UD
30 NPS		592 in <sup>2</sup>			5-14 psi		UD
32 NPS		706.9 in <sup>2</sup>			5-14 psi		UD
36 NPS		868 in <sup>2</sup>			5-14 psi		UD
4 NPS		11.86 in <sup>2</sup>			14-70 psi		UD
42 NPS		1111 in <sup>2</sup>			5-14 psi		UD
6 NPS		25.08 in <sup>2</sup>			12-50 psi		UD
8 NPS		42.07 in <sup>2</sup>			12-42 psi		UD
28 NPS	NPS	513 in <sup>2</sup>	0 in	0 in	5-18 psi		UD

Design Name: LPS Welded Assembly - 1" ConflatNBCert # 78511

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/17/2028

Design Type

[Rupture Disk Device] LPS Welded Assembly - 1" Conflat  
HolderDesignation: Integral  
Capacity Tests: Sec. UD at National Board Testing Lab on March 2, 2022  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.600 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.302 in <sup>2</sup>			15-70 psi		UD

Design Name: LPS, LPS Welded Assembly		NBCert # 77745
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/02/2030
Design Type		
[Rupture Disk Device] LPS, LPS Welded Assembly HolderDesignation: SRB-7RS, SRB-7FS, SR-7R, SMR-7R, SRI-7RS, SRB-QRS, SRB-7RS-TR, SRB-7FS-TR & S90-7R-TR Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 20, 2002 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 0.790 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.59 in <sup>2</sup>			15-70 psi		UD
1 NPS		0.86 in <sup>2</sup>			15-70 psi		UD
1.5 NPS		1.93 in <sup>2</sup>			6-55 psi		UD
10 NPS		78.86 in <sup>2</sup>			5-25 psi		UD
12 NPS		111.87 in <sup>2</sup>			5-25 psi	Air	UD
2 NPS		3.36 in <sup>2</sup>			5-40 psi		UD
3 NPS		7.39 in <sup>2</sup>			5-50 psi		UD
4 NPS		12.74 in <sup>2</sup>			5-30 psi		UD
6 NPS		28.89 in <sup>2</sup>			5-25 psi		UD
8 NPS		50 in <sup>2</sup>			5-25 psi		UD

Design Name: LPS, LPS Welded Assembly (liquid)		NBCert # 77756
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/01/2030
Design Type		
[Rupture Disk Device] LPS, LPS Welded Assembly (liquid) HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SR-7R, SMR-7R, SRI-7RS, S90-7R-TR, SRB-QRS Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 20, 2002 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl Certified Value: 0.860 Unitless Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	0.75 NPS	0.59 in <sup>2</sup>			15-70 psi	Water	UD
1 NPS		0.86 in <sup>2</sup>			15-70 psi		UD
1.5 NPS		1.93 in <sup>2</sup>			6-55 psi		UD
10 NPS		78.86 in <sup>2</sup>			5-25 psi		UD
12 NPS		111.87 in <sup>2</sup>			5-25 psi	Water	UD
2 NPS		3.36 in <sup>2</sup>			5-40 psi		UD

3 NPS	7.39 in <sup>2</sup>	5-50 psi	UD
4 NPS	12.74 in <sup>2</sup>	5-30 psi	UD
6 NPS	28.89 in <sup>2</sup>	5-25 psi	UD
8 NPS	50 in <sup>2</sup>	5-25 psi	UD

Design Name:	LPS-U 0.5"	NBCert #	78308
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/24/2030

#### Design Type

[Rupture Disk Device] LPS-U 0.5"  
HolderDesignation: UR-2, UR-6  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on February 27, 2017  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 1.060 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 in	0.500 in	0.304 in <sup>2</sup>			15-70 psi	Air	UD

Design Name:	LPS-U 0.5" (Liquid)	NBCert #	78319
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/24/2030

#### Design Type

[Rupture Disk Device] LPS-U 0.5" (Liquid)  
HolderDesignation: UR-2, UR-6  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on February 27, 2017  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
Certified Value: 1.220 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 in	0.500 in	0.304 in <sup>2</sup>			15-70 psi	Water	UD

Design Name:	LPS-U 0.75"	NBCert #	78320
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/24/2030

#### Design Type

[Rupture Disk Device] LPS-U 0.75"  
HolderDesignation: UR-2, UR-6  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on February 27, 2017  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 0.890 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 in	0.75 in	0.533 in²			15-70 psi	Air	UD
Design Name: LPS-U 0.75" (Liquid)			NBCert #		78331		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UD			01/24/2030	
Design Type							
[Rupture Disk Device] LPS-U 0.75" (Liquid) HolderDesignation: UR-2, UR-6 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on February 27, 2017 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl Certified Value: 0.930 Unitless Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 in	0.750 in	0.533 in²			15-70 psi	Water	UD
Design Name: LPS-U 1.0"			NBCert #		78342		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UD			12/14/2029	
Design Type							
[Rupture Disk Device] LPS-U 1.0" HolderDesignation: UR-2, UR-6 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on February 27, 2017 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl Certified Value: 1.700 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 in	1.0 in	0.608 in²			15-70 psi	Air	UD
Design Name: LSR & LSR Welded Assembly			NBCert #		77150		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UD			05/17/2029	
Design Type							
[Rupture Disk Device] LSR & LSR Welded Assembly HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, S90-7R, S90-7R-TR, SR-7R, SPR-7R, SMR-7R, SR-7R, SPR-7R, SRI-7RS, SRB-QRS Capacity Tests: Sec. UD at National Board Testing Lab on February 7, 2023 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl Certified Value: 0.590 Unitless; (alternate medium): 0.000 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			9-300 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			4-300 psi		UD
2 NPS		3.36 in <sup>2</sup>			3-300 psi		UD
3 NPS		7.39 in <sup>2</sup>			2.5-300 psi		UD
4 NPS		12.74 in <sup>2</sup>			2-250 psi		UD
6 NPS		28.89 in <sup>2</sup>			2-200 psi		UD

Design Name: MVB Cassette NBCert # 77655

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/27/2029

#### Design Type

[Rupture Disk Device] MVB Cassette  
HolderDesignation: N/A  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 11, 2001  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 0.232 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS		7.39 in <sup>2</sup>			80-400 psi	Air	UD

Design Name: RB-90 NBCert # 77138

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/11/2029

#### Design Type

[Rupture Disk Device] RB-90  
HolderDesignation: RB-7R, RB-7F, RB-7FF, RB-7FS  
Capacity Tests: Sec. UD at National Board Testing Lab on February 19, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 3.470 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.831 in <sup>2</sup>			30-1800 psi		UD
1.5 NPS		1.805 in <sup>2</sup>			25-1700 psi		UD
10 NPS		67.62 in <sup>2</sup>			15-800 psi		UD
12 NPS		101.8 in <sup>2</sup>			15-800 psi		UD
14 NPS		121.7 in <sup>2</sup>			15-800 psi		UD
16 NPS		162.8 in <sup>2</sup>			15-800 psi		UD
18 NPS		209.99 in <sup>2</sup>			13-700 psi		UD

2 NPS	3.153 in <sup>2</sup>	22-1600 psi	UD
20 NPS	262.9 in <sup>2</sup>	13-700 psi	UD
24 NPS	386.9 in <sup>2</sup>	10-700 psi	UD
26 NPS	465 in <sup>2</sup>	10-700 psi	UD
28 NPS	530.7 in <sup>2</sup>	10-700 psi	UD
3 NPS	6.849 in <sup>2</sup>	21-1500 psi	UD
30 NPS	617.7 in <sup>2</sup>	10-700 psi	UD
32 NPS	698.4 in <sup>2</sup>	10-700 psi	UD
34 NPS	790.1 in <sup>2</sup>	10-700 psi	UD
36 NPS	872.8 in <sup>2</sup>	10-700 psi	UD
4 NPS	11.84 in <sup>2</sup>	20-1500 psi	UD
6 NPS	25.45 in <sup>2</sup>	20-850 psi	UD
8 NPS	47.68 in <sup>2</sup>	15-800 psi	UD

Design Name: RLS, RLS Welded Assembly (liquid) NBCert # 77307

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/27/2029

#### Design Type

[Rupture Disk Device] RLS, RLS Welded Assembly (liquid)  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, S90-7R, S90-7R-TR, SMR-7R, SRI-7RS, SRB-7RS Special, SRB-QRS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 16, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 5.830 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.5 in <sup>2</sup>			300-6000 psi		UD
1 NPS		0.84 in <sup>2</sup>			125-6000 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			85-5400 psi		UD
10 NPS		73.9 in <sup>2</sup>			35-1200 psi		UD
12 NPS		99 in <sup>2</sup>			35-900 psi		UD
14 NPS		131 in <sup>2</sup>			35-650 psi		UD
16 NPS		172 in <sup>2</sup>			25-550 psi		UD
18 NPS		219 in <sup>2</sup>			25-450 psi		UD
2 NPS		3.23 in <sup>2</sup>			70-4800 psi		UD
20 NPS		270 in <sup>2</sup>			20-350 psi		UD
3 NPS		6.44 in <sup>2</sup>			55-3800 psi		UD
4 NPS		11.54 in <sup>2</sup>			45-2800 psi		UD
6 NPS		26.4 in <sup>2</sup>			35-2000 psi		UD
8 NPS		47 in <sup>2</sup>			35-1600 psi		UD



Design Name:	RLS, RLS Welded Assembly	NBCert #	77059
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	05/26/2027

#### Design Type

[Rupture Disk Device] RLS, RLS Welded Assembly  
HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR, SRB-7FS, SRB-7FR-TR, SMR-7R, SRI-7RS, SRB-7RS Special, SRB-QRS  
Capacity Tests: Sec. UD at National Board Testing Lab on August 12, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.140 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.5 in <sup>2</sup>			300-2000 psi		UD
1 NPS		0.84 in <sup>2</sup>			125-2200 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			85-1800 psi		UD
10 NPS		73.9 in <sup>2</sup>			35-250 psi		UD
12 NPS		99 in <sup>2</sup>			35-150 psi		UD
14 NPS		131 in <sup>2</sup>			35-130 psi		UD
16 NPS		172 in <sup>2</sup>			25-110 psi		UD
18 NPS		219 in <sup>2</sup>			25-90 psi		UD
2 NPS		3.23 in <sup>2</sup>			70-1800 psi		UD
20 NPS		270 in <sup>2</sup>			20-90 psi		UD
3 NPS		6.44 in <sup>2</sup>			55-1600 psi		UD
4 NPS		11.54 in <sup>2</sup>			45-1500 psi		UD
6 NPS		26.4 in <sup>2</sup>			35-650 psi		UD
8 NPS		47 in <sup>2</sup>			35-400 psi		UD

Design Name:	S-90 (Inconel)	NBCert #	77206
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/27/2029

#### Design Type

[Rupture Disk Device] S-90 (Inconel)  
HolderDesignation: S90-7R, S90-7R-TR, SRB-7RS, SRB-7RS-TR, SMR-7R, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 24, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.230 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			170-1000 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			128-1000 psi		UD

10 NPS	78.8 in <sup>2</sup>	36-700 psi	UD
12 NPS	111 in <sup>2</sup>	33-600 psi	UD
14 NPS	135 in <sup>2</sup>	30-500 psi	UD
16 NPS	176 in <sup>2</sup>	28-200 psi	UD
18 NPS	223 in <sup>2</sup>	26-160 psi	UD
2 NPS	3.36 in <sup>2</sup>	96-1000 psi	UD
20 NPS	277 in <sup>2</sup>	24-142 psi	UD
24 NPS	402 in <sup>2</sup>	22-118 psi	UD
3 NPS	7.39 in <sup>2</sup>	72-1000 psi	UD
30 NPS	672 in <sup>2</sup>	20-80 psi	UD
4 NPS	12.7 in <sup>2</sup>	60-800 psi	UD
6 NPS	28.9 in <sup>2</sup>	48-800 psi	UD
8 NPS	50 in <sup>2</sup>	42-700 psi	UD
40 NPS	NPS	1195 in <sup>2</sup> 0 in	30-250 psi UD

Design Name: S90, S90 Welded Assembly NBCert # 77082

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/27/2029

#### Design Type

[Rupture Disk Device] S90, S90 Welded Assembly  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR, SMR-7R, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS  
 Capacity Tests: Sec. UD at National Board Testing Lab on July 27, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 1.130 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			75-1000 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			54-1000 psi		UD
10 NPS		78.8 in <sup>2</sup>			30-700 psi		UD
12 NPS		111 in <sup>2</sup>			27-600 psi		UD
14 NPS		135 in <sup>2</sup>			25-500 psi		UD
16 NPS		176 in <sup>2</sup>			23-475 psi		UD
18 NPS		223 in <sup>2</sup>			22-475 psi		UD
2 NPS		3.36 in <sup>2</sup>			45-1000 psi		UD
20 NPS		277 in <sup>2</sup>			20-250 psi		UD
24 NPS		402 in <sup>2</sup>			18-250 psi		UD
28 NPS		583 in <sup>2</sup>			20-250 psi		UD
3 NPS		7.39 in <sup>2</sup>			36-1000 psi		UD
30 NPS		672 in <sup>2</sup>			20-250 psi		UD
4 NPS		12.7 in <sup>2</sup>			30-800 psi		UD
40 NPS	NPS	1195 in <sup>2</sup>			20-250 psi	Air	UD

6 NPS	28.8 in <sup>2</sup>	24-800 psi	UD
8 NPS	50 in <sup>2</sup>	35-700 psi	UD

Design Name:	S90-HP, S90-HP Welded Assembly	NBCert #	78432
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 11/05/2025

#### Design Type

[Rupture Disk Device] S90-HP, S90-HP Welded Assembly  
HolderDesignation: SRB-7HP, S90-7HP  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 9, 2019  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 8.000 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.71 in <sup>2</sup>			1000-6005 psi		UD
1.5 NPS		1.62 in <sup>2</sup>			1000-6005 psi		UD
2 NPS		2.68 in <sup>2</sup>			1000-6005 psi		UD
3 NPS		5.92 in <sup>2</sup>			1000-6005 psi		UD
4 NPS		10.2 in <sup>2</sup>			800-6005 psi		UD
6 NPS		23 in <sup>2</sup>			800-6005 psi		UD

Design Name:	SIGMA, SIGMA EXL, UBR	NBCert #	77464
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 09/19/2028

#### Design Type

[Rupture Disk Device] SIGMA, SIGMA EXL, UBR  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SR-7R, SRI-7RS, S90-7R-TR, SRB-QRS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 28, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.380 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
	10 NPS	78.86 in <sup>2</sup>			15-100 psi	Air	UD
1.5-1.5 NPS	1.5 NPS	1.93 in <sup>2</sup>			25-450 psi	Air	UD
1-1 NPS	1 NPS	0.86 in <sup>2</sup>			30-500 psi		UD
2-2 NPS	2 NPS	3.36 in <sup>2</sup>			25-400 psi	Air	UD
3-3 NPS	3 NPS	7.39 in <sup>2</sup>			20-400 psi	Air	UD
4-4 NPS	4 NPS	12.74 in <sup>2</sup>			16-400 psi	Air	UD
6-6 NPS	6 NPS	28.89 in <sup>2</sup>			15-225 psi	Air	UD
8-8 NPS	8 NPS	50 in <sup>2</sup>			15-125 psi	Air	UD

Design Name: SIGMA, SIGMA EXL, UBR (liquid)		NBCert #	77475
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	09/19/2028
Design Type			
[Rupture Disk Device] SIGMA, SIGMA EXL, UBR (liquid) HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SRB-7R, SRI-7RS, S90-7R-TR, SRB-QRS Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 28, 2000 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl Certified Value: 1.250 Unitless Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.5 NPS	1.5 NPS	1.93 in <sup>2</sup>			25-750 psi	Water	UD
10-10 NPS	10 NPS	78.86 in <sup>2</sup>			15-100 psi	Water	UD
1-1 NPS	1 NPS	0.86 in <sup>2</sup>			30-500 psi		UD
2-2 NPS	2 NPS	3.36 in <sup>2</sup>			25-400 psi	Water	UD
3-3 NPS	3 NPS	7.39 in <sup>2</sup>			20-400 psi	Water	UD
4-4 NPS	4 NPS	12.74 in <sup>2</sup>			16-400 psi	Water	UD
6-6 NPS	6 NPS	28.89 in <sup>2</sup>			15-225 psi	Water	UD
8-8 NPS	8 NPS	50 in <sup>2</sup>			15-125 psi	Water	UD

Design Name: SKI, SKI-TN		NBCert #	78410
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	10/18/2030
Design Type			
[Rupture Disk Device] SKI, SKI-TN HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 4, 2018 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg Certified Value: 0.470 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 in	1.0 in	0.86 in <sup>2</sup>			60-500 psi	Air	UD
1.5 in	1.5 in	1.93 in <sup>2</sup>			45-500 psi	Air	UD
2 in	2.0 in	3.36 in <sup>2</sup>			30-500 psi	Air	UD
3 in	3.0 in	7.39 in <sup>2</sup>			25-500 psi	Air	UD
4 in	4.0 in	12.74 in <sup>2</sup>			20-500 psi	Air	UD
6 in	6.0 in	28.89 in <sup>2</sup>			20-261 psi	Air	UD
8 in	8.0 in	50 in <sup>2</sup>			20-200 psi	Air	UD

Design Name:	SKI, SKI-TN (Liquid)	NBCert #	78421
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	10/18/2030
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#### Design Type

[Rupture Disk Device] SKI, SKI-TN (Liquid)  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 4, 2018  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
Certified Value: 1.030 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 in	1.0 in	0.86 in <sup>2</sup>			60-500 psi	Water	UD
1.5 in	1.5 in	1.93 in <sup>2</sup>			45-500 psi	Water	UD
2 in	2.0 in	3.36 in <sup>2</sup>			30-500 psi	Water	UD
3 in	3.0 in	7.39 in <sup>2</sup>			25-500 psi	Water	UD
4 in	4.0 in	12.74 in <sup>2</sup>			20-500 psi	Water	UD
6 in	6.0 in	28.89 in <sup>2</sup>			20-261 psi	Water	UD
8 in	8.0 in	50 in <sup>2</sup>			20-200 psi	Water	UD

Design Name:	SKI-TK	NBCert #	78465
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	11/21/2025
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#### Design Type

[Rupture Disk Device] SKI-TK  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SRI-7RS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 13, 2019  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.680 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			60-500 psi		UD
1.5 NPS		1.93 in <sup>2</sup>			45-500 psi		UD
2 NPS		3.36 in <sup>2</sup>			30-500 psi		UD
3 NPS		7.39 in <sup>2</sup>			25-500 psi		UD
4 NPS		12.74 in <sup>2</sup>			20-500 psi		UD
6 NPS		28.89 in <sup>2</sup>			20-261 psi		UD
8 NPS		50 in <sup>2</sup>			20-200 psi		UD

Design Name:	SKI-TK (Liquid)	NBCert #	78476
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 11/21/2025

#### Design Type

[Rupture Disk Device] SKI-TK (Liquid)  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SRI-7RS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 13, 2019  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 1.300 Unitless  
Media - Test: Water/Liquid (Krl test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			60-500 psi		UD
1.5 NPS		1.93 in <sup>2</sup>			45-500 psi		UD
2 NPS		3.36 in <sup>2</sup>			30-500 psi		UD
3 NPS		7.39 in <sup>2</sup>			25-500 psi		UD
4 NPS		12.74 in <sup>2</sup>			20-500 psi		UD
6 NPS		28.89 in <sup>2</sup>			20-261 psi		UD
8 NPS		50 in <sup>2</sup>			20-200 psi		UD

Design Name:	SKr DD	NBCert #	78106
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 05/17/2029

#### Design Type

[Rupture Disk Device] SKr DD  
HolderDesignation: S90-7R DD, S90-7R-TR DD, SRB-7RS DD, SRB-7RS-TR DD, SRB-7FS DD, SRB-7FS-TR DD  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 26, 2013  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.630 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.59 in <sup>2</sup>			55-500 psi	Air	UD
1 NPS		0.86 in <sup>2</sup>			55-500 psi	Air	UD
1.5 NPS		2.04 in <sup>2</sup>			40-500 psi	Air	UD
10 NPS		78.86 in <sup>2</sup>			11-150 psi	Air	UD
12 NPS		117.87 in <sup>2</sup>			9-110 psi	Air	UD
2 NPS		3.36 in <sup>2</sup>			25-500 psi	Air	UD
3 NPS		7.39 in <sup>2</sup>			20-500 psi	Air	UD
4 NPS		12.74 in <sup>2</sup>			16-500 psi	Air	UD
6 NPS		28.89 in <sup>2</sup>			15-261 psi	Air	UD

8 NPS	50 in <sup>2</sup>	15-200 psi	Air	UD
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Design Name: SKr DD (Liquid)		NBCert #	78117
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	12/20/2025
Design Type			
[Rupture Disk Device] SKr DD (Liquid) HolderDesignation: S90-7R DD, S90-7R-TR DD, SRB-7RS DD, SRB-7RS-TR DD, SRB-7FS DD, SRB-7FS-TR DD Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 26, 2013 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl Certified Value: 1.600 Unitless Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.59 in <sup>2</sup>			55-500 psi	Water	UD
1 NPS		0.86 in <sup>2</sup>			55-500 psi	Water	UD
1.5 NPS		2.04 in <sup>2</sup>			40-500 psi	Water	UD
10 NPS		78.86 in <sup>2</sup>			11-150 psi	Water	UD
12 NPS		117.87 in <sup>2</sup>			9-110 psi	Water	UD
2 NPS		3.36 in <sup>2</sup>			25-500 psi	Water	UD
3 NPS		7.39 in <sup>2</sup>			20-500 psi	Water	UD
4 NPS		12.74 in <sup>2</sup>			16-500 psi	Water	UD
6 NPS		28.89 in <sup>2</sup>			15-261 psi	Water	UD
8 NPS		50 in <sup>2</sup>			15-200 psi	Water	UD

Design Name: SKR, SKR Welded Assembly		NBCert #	77161
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	04/30/2026
Design Type			
[Rupture Disk Device] SKR, SKR Welded Assembly HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS Capacity Tests: Sec. UD at National Board Testing Lab on April 24, 1999 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 0.370 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.59 in <sup>2</sup>			55-500 psi	Air	UD
1 NPS		0.86 in <sup>2</sup>			55-500 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			40-500 psi		UD
10 NPS		78.86 in <sup>2</sup>			11-150 psi		UD
12 NPS		117.87 in <sup>2</sup>			9-110 psi		UD

2 NPS	3.36 in <sup>2</sup>	25-550 psi	UD
3 NPS	7.39 in <sup>2</sup>	20-500 psi	UD
4 NPS	12.74 in <sup>2</sup>	16-500 psi	UD
6 NPS	28.89 in <sup>2</sup>	15-261 psi	UD
8 NPS	50 in <sup>2</sup>	15-200 psi	UD

Design Name: SKR, SKR Welded Assembly (Liquids) NBCert # 77329

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/22/2026

#### Design Type

[Rupture Disk Device] SKR, SKR Welded Assembly (Liquids)  
 HolderDesignation: S90-7R, S90-7R-TR, SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS  
 Capacity Tests: Sec. UD at National Board Testing Lab on April 30, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 1.900 Unitless  
 Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.59 in <sup>2</sup>			55-500 psi	Water	UD
1 NPS		0.86 in <sup>2</sup>			55-500 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			40-500 psi		UD
10 NPS		78.86 in <sup>2</sup>			11-150 psi		UD
12 NPS		117.87 in <sup>2</sup>			9-110 psi		UD
2 NPS		3.36 in <sup>2</sup>			25-550 psi		UD
3 NPS		7.39 in <sup>2</sup>			20-500 psi		UD
4 NPS		12.74 in <sup>2</sup>			16-500 psi		UD
6 NPS		28.89 in <sup>2</sup>			15-261 psi		UD
8 NPS		50 in <sup>2</sup>			15-200 psi		UD

Design Name: SKr-U 1" NBCert # 77521

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 09/18/2028

#### Design Type

[Rupture Disk Device] SKr-U 1"  
 HolderDesignation: UR-2, UR-6, Welded Assembly  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 24, 2000  
 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
 Certified Value: 1.250 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.608 in <sup>2</sup>			55-500 psi		UD



Design Name:    Skr-U 1/2"		NBCert #        77509
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/18/2028
Design Type		
[Rupture Disk Device] Skr-U 1/2" HolderDesignation: UR-2, UR-6, Welded Assembly Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on September 15, 2000 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg Certified Value: 0.850 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.5 NPS	.5 NPS	0.304 in <sup>2</sup>			55-500 psi		UD

Design Name:    SKr-U 3/4" Liquid		NBCert #        77543
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/11/2028
Design Type		
[Rupture Disk Device] SKr-U 3/4" Liquid HolderDesignation: UR-2, UR-6, Welded Assembly Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 26, 2000 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl Certified Value: 1.100 Unitless Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-0.75 NPS	.75 NPS	0.533 in <sup>2</sup>			55-775 psi		UD

Design Name:    SKr-U 1" Liquid		NBCert #        77554
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/14/2028
Design Type		
[Rupture Disk Device] SKr-U 1" Liquid HolderDesignation: UR-2, UR-6, Welded Assembly Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 24, 2000 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl Certified Value: 2.200 Unitless Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.608 in <sup>2</sup>			55-500 psi		UD

Design Name: SKr-U 3/4"		NBCert #	77510
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	09/11/2028
Design Type			
[Rupture Disk Device] SKr-U 3/4" HolderDesignation: UR-2, UR-6, Welded Assembly Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 26, 2000 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg Certified Value: 0.730 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-0.75 NPS	.75 NPS	0.533 in <sup>2</sup>			55-775 psi		UD

Design Name: SRD & CCS		NBCert #	78229
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	08/15/2028
Design Type			
[Rupture Disk Device] SRD & CCS HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SMR-7R, SR-7R, SPR-7R, S90-7R, S90-7R-TR, SRI-7RS, SRB-QRS Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 19, 2016 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 0.590 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.84 in <sup>2</sup>			481-750 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			421-600 psi		UD
2 NPS		3.23 in <sup>2</sup>			421-500 psi		UD
3 NPS		6.44 in <sup>2</sup>			281-500 psi		UD
4 NPS		11.54 in <sup>2</sup>			271-500 psi		UD
6 NPS		26.44 in <sup>2</sup>			101-200 psi		UD
8 NPS		47.07 in <sup>2</sup>			76-150 psi		UD
10 NPS		73.94 in <sup>2</sup>		0 in	60-125 psi		UD
12 NPS		99.1 in <sup>2</sup>		0 in	45-90 psi		UD
24 NPS		334 in <sup>2</sup>		0 in	32-60 psi		UD

Design Name: SRD & CCS (Liquid)		NBCert #	78230
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	08/16/2028

## Design Type

[Rupture Disk Device] SRD & CCS (Liquid)  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SMR-7R, SR-7R, SPR-7R, S90-7R, S90-7R-TR, SRI-7RS, SRB-QRS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 19, 2016  
 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
 Certified Value: 4.000 Unitless  
 Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.84 in <sup>2</sup>			481-750 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			421-600 psi		UD
2 NPS		3.23 in <sup>2</sup>			421-500 psi		UD
3 NPS		6.44 in <sup>2</sup>			281-500 psi		UD
4 NPS		11.54 in <sup>2</sup>			271-500 psi		UD
6 NPS		26.44 in <sup>2</sup>			101-200 psi		UD
8 NPS		47.07 in <sup>2</sup>			76-150 psi		UD
10 NPS		73.94 in <sup>2</sup>		0 in	60-125 psi		UD
12 NPS		99.1 in <sup>2</sup>		0 in	45-90 psi		UD
24 NPS		334 in <sup>2</sup>		0 in	32-60 psi		UD

Design Name: SRD-L & CCS-L NBCert # 78241

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/16/2028

## Design Type

[Rupture Disk Device] SRD-L & CCS-L  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SMR-7R, SR-7R, SPR-7R, S90-7R, S90-7R-TR, SRI-7RS, SRB-QRS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 19, 2016  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 3.400 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.84 in <sup>2</sup>			75-480 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			75-420 psi		UD
2 NPS		3.23 in <sup>2</sup>			75-420 psi		UD
3 NPS		6.44 in <sup>2</sup>			45-280 psi		UD
4 NPS		11.54 in <sup>2</sup>			20-270 psi		UD
6 NPS		26.44 in <sup>2</sup>			20-100 psi		UD
8 NPS		47.07 in <sup>2</sup>			15-75 psi		UD
10 NPS		73.94 in <sup>2</sup>		0 in	13-60 psi		UD
12 NPS		99 in <sup>2</sup>		0 in	13-45 psi		UD
14 NPS		131 in <sup>2</sup>		0 in	12-40 psi		UD
16 NPS		172 in <sup>2</sup>		0 in	12-38 psi		UD

18 NPS	219 in <sup>2</sup>	0 in	10-36 psi	UD
20 NPS	270 in <sup>2</sup>	0 in	10-34 psi	UD
24 NPS	334 in <sup>2</sup>	0 in	10-32 psi	UD

Design Name: SRD-L & CCS-L (Liquid) NBCert # 78252

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/11/2029

#### Design Type

[Rupture Disk Device] SRD-L & CCS-L (Liquid)  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SMR-7R, SR-7R, SPR-7R, S90-7R, S90-7R-TR, SRI-7RS, SRB-QRS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 19, 2016  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 4.500 Unitless  
 Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.84 in <sup>2</sup>			75-480 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			75-420 psi		UD
2 NPS		3.23 in <sup>2</sup>			75-420 psi		UD
3 NPS		6.44 in <sup>2</sup>			45-280 psi		UD
4 NPS		11.54 in <sup>2</sup>			20-270 psi		UD
6 NPS		26.44 in <sup>2</sup>			20-100 psi		UD
8 NPS		47.07 in <sup>2</sup>			15-75 psi		UD
10 NPS		73.94 in <sup>2</sup>		0 in	13-60 psi		UD
12 NPS		99 in <sup>2</sup>		0 in	13-45 psi		UD
14 NPS		131 in <sup>2</sup>		0 in	12-40 psi		UD
16 NPS		172 in <sup>2</sup>		0 in	12-38 psi		UD
18 NPS		219 in <sup>2</sup>		0 in	10-36 psi		UD
20 NPS		270 in <sup>2</sup>		0 in	10-36 psi		UD
24 NPS		334 in <sup>2</sup>		0 in	10-32 psi		UD

Design Name: SSR NBCert # 77969

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/27/2029

#### Design Type

[Rupture Disk Device] SSR  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, SPR-7R, SMR-7R, S90-7R, S90-7R-TR, SRB-7FS, SRB-7FS-TR, SR-7R, SRI-7RS, SRB-QRS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on March 28, 2006  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.520 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			55-350 psi		UD
1.5 NPS		1.93 in <sup>2</sup>			40-350 psi		UD
10 NPS		78.8 in <sup>2</sup>			15-150 psi		UD
2 NPS		3.36 in <sup>2</sup>			25-300 psi		UD
3 NPS		7.39 in <sup>2</sup>			20-250 psi		UD
4 NPS		12.74 in <sup>2</sup>			16-250 psi		UD
6 NPS		28.89 in <sup>2</sup>			15-250 psi		UD
8 NPS		50 in <sup>2</sup>			15-200 psi		UD
12 NPS	NPS	111.8 in <sup>2</sup>	0 in	0 in	13-70 psi		UD

Design Name:	SSR (liquid)	NBCert #	77958
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/27/2029

#### Design Type

[Rupture Disk Device] SSR (liquid)  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SMR-7R, SPR-7R, S90-7R, S90-7R-TR, SRB-7FS, SRB-7FS-TR, SR-7R, SRI-7RS, SRB-QRS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on March 28, 2006  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 0.520 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			55-350 psi		UD
1.5 NPS		1.93 in <sup>2</sup>			40-350 psi		UD
10 NPS		78.8 in <sup>2</sup>			15-150 psi		UD
2 NPS		3.36 in <sup>2</sup>			25-350 psi		UD
3 NPS		7.39 in <sup>2</sup>			20-350 psi		UD
4 NPS		12.74 in <sup>2</sup>			16-375 psi		UD
6 NPS		28.89 in <sup>2</sup>			15-350 psi		UD
8 NPS		50 in <sup>2</sup>			15-350 psi		UD
12 NPS	NPS	111.8 in <sup>2</sup>	0 in	0 in	13-250 psi		UD

Design Name:	VSP-SH, RCS	NBCert #	77947
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 05/17/2029

## Design Type

[Rupture Disk Device] VSP-SH, RCS

HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, S90-7R, S90-7R-TR, SMR-7R, SR-7R, SPR-7R, SRI-7RS, SHO-7R

Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on March 1, 2011

Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl

Certified Value: 1.770 Unitless

Media - Test: Air/Gas; Certified: Compressible (Krg)

Set Pressure Definition: Burst Pressure

Flow Area Configuration: MNFA

Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		68.65 in <sup>2</sup>			5.8-50 psi	Air	UD
12 NPS		102.28 in <sup>2</sup>			2.9-50 psi	Air	UD
14 NPS		121.86 in <sup>2</sup>			2.9-50 psi	Air	UD
16 NPS		156 in <sup>2</sup>			2.9-50 psi	Air	UD
18 NPS		198 in <sup>2</sup>			1.5-50 psi	Air	UD
20 NPS		246 in <sup>2</sup>			1.5-50 psi	Air	UD
22 NPS		313 in <sup>2</sup>			1.5-50 psi	Air	UD
24 NPS		357 in <sup>2</sup>			0.7-50 psi	Air	UD
26 NPS		441 in <sup>2</sup>			0.7-50 psi	Air	UD
28 NPS		514 in <sup>2</sup>			0.7-50 psi	Air	UD
30 NPS		592 in <sup>2</sup>			0.7-50 psi	Air	UD
32 NPS		706.9 in <sup>2</sup>			0.7-50 psi	Air	UD
36 NPS		868 in <sup>2</sup>			0.7-50 psi	Air	UD
38 NPS		959 in <sup>2</sup>			0.7-50 psi	Air	UD
40 NPS		1065 in <sup>2</sup>			0.7-50 psi	Air	UD
42 NPS		1176 in <sup>2</sup>			0.7-50 psi	Air	UD
44 NPS		1292 in <sup>2</sup>			0.7-50 psi	Air	UD
46 NPS		1415 in <sup>2</sup>			0.7-50 psi	Air	UD
48 NPS		1548 in <sup>2</sup>			0.7-50 psi	Air	UD
52 NPS		1815 in <sup>2</sup>			0.7-50 psi	Air	UD
56 NPS		2110 in <sup>2</sup>			0.7-50 psi	Air	UD
6 NPS		25.08 in <sup>2</sup>			7.3-140 psi	Air	UD
60 NPS		2426 in <sup>2</sup>			0.7-50 psi	Air	UD
8 NPS		42.07 in <sup>2</sup>			7.3-100 psi	Air	UD
1.5 NPS	NPS	1.89 in <sup>2</sup>		0 in	60-150 psi		UD
2 NPS	NPS	3.35 in <sup>2</sup>		0 in	45-150 psi		UD
3 NPS	NPS	6.53 in <sup>2</sup>		0 in	22-150 psi		UD
4 NPS	NPS	11.86 in <sup>2</sup>		0 in	8.7-150 psi		UD

Design Name: XT (Liquid)

NBCert #

78094

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/17/2028

**Design Type**

[Rupture Disk Device] XT (Liquid)  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on February 13, 2013  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 0.500 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			250-1450 psi	Water	UD
1.5 NPS		2.03 in <sup>2</sup>			150-1450 psi	Water	UD
10 NPS		78.8 in <sup>2</sup>			60-840 psi	Water	UD
12 NPS		111 in <sup>2</sup>			60-720 psi	Water	UD
2 NPS		3.36 in <sup>2</sup>			150-1450 psi	Water	UD
3 NPS		7.39 in <sup>2</sup>			150-1300 psi	Water	UD
4 NPS		12.7 in <sup>2</sup>			80-1150 psi	Water	UD
6 NPS		28.8 in <sup>2</sup>			70-1040 psi	Water	UD
8 NPS		50 in <sup>2</sup>			60-960 psi	Water	UD

Design Name: XT, XT Welded Assembly NBCert # 77149

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

10/27/2029

**Design Type**

[Rupture Disk Device] XT, XT Welded Assembly  
HolderDesignation: NX-7R, NF-7R, NF-7RS, TL-7R, TLP-7R  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 1, 2006  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.500 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 in	in	0.86 in <sup>2</sup>			80-1450 psi		UD
1.5 in	in	2.03 in <sup>2</sup>			55-1450 psi		UD
10 in	in	78.8 in <sup>2</sup>			60-840 psi		UD
12 in	in	111 in <sup>2</sup>			60-720 psi		UD
2 in	in	3.36 in <sup>2</sup>			45-1450 psi		UD
3 in	in	7.39 in <sup>2</sup>			45-1300 psi		UD
4 in	in	12.7 in <sup>2</sup>			40-1150 psi		UD
6 in	in	28.8 in <sup>2</sup>			40-1040 psi		UD
8 in	in	50 in <sup>2</sup>			40-960 psi		UD

## BS&B Premco Latinoamerica S.A. De C.V. (BSP)

Santa Catarina, Nuevo Leon, 66360Mexico

### This Company Manufactures or Assembles:

Design Name: AV		NBCert # 77341
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/25/2027

#### Design Type

[Rupture Disk Device] AV  
HolderDesignation: AV7R, AV-7RS, AV-7FS, AV-1, -2, -3, -4, -5, -6, -7, -8, -9  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on November 4, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 4.350 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		78.85 in <sup>2</sup>			0.6-60 psi		UD
12 NPS		113.1 in <sup>2</sup>			0.6-60 psi		UD
14 NPS		137.9 in <sup>2</sup>			0.6-60 psi		UD
16 NPS		182.7 in <sup>2</sup>			0.6-60 psi		UD
18 NPS		233.7 in <sup>2</sup>			0.5-60 psi		UD
2 NPS		3.356 in <sup>2</sup>			5-150 psi		UD
2.5 NPS		4.787 in <sup>2</sup>			5-150 psi		UD
20 NPS		291 in <sup>2</sup>			0.5-60 psi		UD
22 NPS		354.7 in <sup>2</sup>			0.5-60 psi		UD
24 NPS		424.6 in <sup>2</sup>			0.5-60 psi		UD
26 NPS		500.7 in <sup>2</sup>			0.5-45 psi		UD
28 NPS		583.2 in <sup>2</sup>			0.5-45 psi		UD
3 NPS		7.392 in <sup>2</sup>			4-150 psi		UD
30 NPS		672 in <sup>2</sup>			0.5-45 psi		UD
32 NPS		767 in <sup>2</sup>			0.35-40 psi		UD
34 NPS		868.3 in <sup>2</sup>			0.35-40 psi		UD
36 NPS		975.9 in <sup>2</sup>			0.25-40 psi		UD
38 NPS		1090 in <sup>2</sup>			0.25-40 psi		UD
4 NPS		12.73 in <sup>2</sup>			2-150 psi		UD
40 NPS		1210 in <sup>2</sup>			0.25-40 psi		UD
42 NPS		1336 in <sup>2</sup>			0.25-40 psi		UD
44 NPS		1469 in <sup>2</sup>			0.25-40 psi		UD
46 NPS		1608 in <sup>2</sup>			0.25-40 psi		UD



48 NPS	1753 in <sup>2</sup>	0.25-40 psi	UD
5 NPS	20 in <sup>2</sup>	2-100 psi	UD
6 NPS	28.89 in <sup>2</sup>	1-100 psi	UD
8 NPS	50.02 in <sup>2</sup>	1-100 psi	UD

Design Name: AVV	NBCert # 78364
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	04/15/2027

### Design Type

[Rupture Disk Device] AVV  
HolderDesignation: AV-75 (optional)  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on March 17, 2017  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value:10.500 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 in		0.4 in <sup>2</sup>			10-150 psi		UD
1.5 in		0.95 in <sup>2</sup>			7-150 psi		UD
10 in		45.5 in <sup>2</sup>			0.6-60 psi		UD
12 in		62.75 in <sup>2</sup>			0.6-60 psi		UD
14 in		74.5 in <sup>2</sup>			0.6-60 psi		UD
16 in		111 in <sup>2</sup>			0.6-60 psi		UD
18 in		158 in <sup>2</sup>			0.5-60 psi		UD
2 in		1.6 in <sup>2</sup>			5-150 psi		UD
20 in		195 in <sup>2</sup>			0.5-60 psi		UD
24 in		280 in <sup>2</sup>			0.5-60 psi		UD
28 in		382 in <sup>2</sup>			0.5-60 psi		UD
3 in		4 in <sup>2</sup>			4-150 psi		UD
30 in		425 in <sup>2</sup>			0.5-60 psi		UD
32 in		500 in <sup>2</sup>			0.35-40 psi		UD
36 in		630 in <sup>2</sup>			0.25-40 psi		UD
4 in		8 in <sup>2</sup>			2-150 psi		UD
40 in		780 in <sup>2</sup>			0.25-40 psi		UD
44 in		945 in <sup>2</sup>			0.25-40 psi		UD
48 in		1125 in <sup>2</sup>			0.25-40 psi		UD
6 in		16.5 in <sup>2</sup>			1-100 psi		UD
8 in		35.75 in <sup>2</sup>			1-100 psi		UD

Design Name: BPAV (air/gas)		NBCert #	77981
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	04/10/2029
Design Type			
[Buckling Pin Non-reclosing Device] BPAV (air/gas) Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 27, 2011 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.800 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Buckling Pressure Flow Area Configuration: Nozzle/Full Lift & MNFA Designed by: BS & B Premco LLC {PRL} Comments: Lifts listed are required total travel.			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.72 in <sup>2</sup>	0.957 in	0.912 in	2100-3500 psi	Air	UD
1 NPS	1.5 NPS	0.86 in <sup>2</sup>	1.046 in	0.912 in	15-2100 psi	Air	UD
1.5 NPS	2 NPS	2.04 in <sup>2</sup>	1.612 in	1.051 in	15-1440 psi	Air	UD
2 NPS	3 NPS	3.36 in <sup>2</sup>	2.067 in	1.257 in	15-720 psi	Air	UD
3 NPS	4 NPS	7.39 in <sup>2</sup>	3.067 in	1.755 in	15-720 psi	Air	UD
4 NPS	6 NPS	12.73 in <sup>2</sup>	4.026 in	2.084 in	15-720 psi	Air	UD
6 NPS	8, 10 NPS	28.89 in <sup>2</sup>	6.065 in	2.61 in	15-275 psi	Air	UD
8 NPS	10 NPS	50.03 in <sup>2</sup>	7.981 in	3.304 in	15-275 psi	Air	UD

Design Name: BPAV (Liquid)		NBCert #	77970
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	04/10/2029
Design Type			
[Buckling Pin Non-reclosing Device] BPAV (Liquid) Capacity Tests: Sec. UD at National Board Testing Lab on May 3, 2012 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.686 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Buckling Pressure Flow Area Configuration: Nozzle/Full Lift Designed by: BS & B Premco LLC {PRL} Comments: Lifts listed are required total travel.			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.72 in <sup>2</sup>	0.957 in	0.912 in	2100-3500 psi	Water	UD
1 NPS	1.5 NPS	0.86 in <sup>2</sup>	1.046 in	0.912 in	50-2100 psi	Water	UD
1.5 NPS	2 NPS	2.04 in <sup>2</sup>	1.612 in	1.051 in	15-1440 psi	Water	UD
2 NPS	3 NPS	3.36 in <sup>2</sup>	2.067 in	1.257 in	15-720 psi	Water	UD
3 NPS	4 NPS	7.39 in <sup>2</sup>	3.067 in	1.755 in	15-720 psi	Water	UD
4 NPS	6 NPS	12.73 in <sup>2</sup>	4.026 in	2.084 in	15-720 psi	Water	UD
6 NPS	8, 10 NPS	28.89 in <sup>2</sup>	6.065 in	2.61 in	15-275 psi	Water	UD
8 NPS	10 NPS	50.03 in <sup>2</sup>	7.981 in	3.304 in	15-275 psi	Water	UD

Design Name:	BPPV	NBCert #	77992
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	11/02/2029

### Design Type

[Buckling Pin Non-reclosing Device] BPPV  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on December 20, 2011  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 2.200 Unitless; Certification Provisions: Exceeds Lab Limits (Prev. CC 2397)  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: BS & B Premco LLC {PRL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6-6 NPS	6 NPS	28.27 in <sup>2</sup>	6 in	3 in	15-275 psi	Air	UD
8-8 NPS	8 NPS	49.02 in <sup>2</sup>	7.9 in	3.95 in	15-275 psi	Air	UD
10-10 NPS	10 NPS	77.32 in <sup>2</sup>	9.92 in	4.96 in	15-275 psi	Air	UD
12-12 NPS	12 NPS	110.85 in <sup>2</sup>	11.88 in	5.94 in	15-275 psi	Air	UD
14-14 NPS	14 NPS	135.1 in <sup>2</sup>	13.12 in	6.56 in	15-275 psi	Air	UD
16-16 NPS	16 NPS	179 in <sup>2</sup>	15.1 in	7.55 in	15-275 psi	Air	UD
18-18 NPS	18 NPS	229 in <sup>2</sup>	17.08 in	8.54 in	15-275 psi	Air	UD
20-20 NPS	20 NPS	285.2 in <sup>2</sup>	19.06 in	9.53 in	15-275 psi	Air	UD
22-22 NPS	22 NPS	347.5 in <sup>2</sup>	21.04 in	10.52 in	15-275 psi	Air	UD
24-24 NPS	24 NPS	416.1 in <sup>2</sup>	23.02 in	11.51 in	15-275 psi	Air	UD
26-26 NPS	26 NPS	490.6 in <sup>2</sup>	25 in	12.5 in	15-275 psi	Air	UD
28-28 NPS	28 NPS	571.5 in <sup>2</sup>	26.98 in	13.49 in	15-275 psi	Air	UD
30-30 NPS	30 NPS	658.4 in <sup>2</sup>	28.96 in	14.48 in	15-275 psi	Air	UD
32-32 NPS	32 NPS	751.5 in <sup>2</sup>	30.94 in	15.47 in	15-100 psi	Air	UD
34-34 NPS	34 NPS	850.8 in <sup>2</sup>	32.92 in	16.46 in	15-100 psi	Air	UD
36-36 NPS	36 NPS	956.2 in <sup>2</sup>	34.9 in	17.45 in	15-100 psi	Air	UD
38-38 NPS	38 NPS	1067.8 in <sup>2</sup>	36.88 in	18.44 in	15-100 psi	Air	UD
40-40 NPS	40 NPS	1185.6 in <sup>2</sup>	38.86 in	19.43 in	15-100 psi	Air	UD
42-42 NPS	42 NPS	1309.5 in <sup>2</sup>	40.84 in	20.42 in	15-100 psi	Air	UD
44-44 NPS	44 NPS	1439.5 in <sup>2</sup>	42.82 in	21.41 in	15-100 psi	Air	UD
46-46 NPS	46 NPS	1575.7 in <sup>2</sup>	44.8 in	22.4 in	15-100 psi	Air	UD
48-48 NPS	48 NPS	1718.1 in <sup>2</sup>	46.78 in	23.39 in	15-100 psi	Air	UD
50-50 NPS	50 NPS	1866.6 in <sup>2</sup>	48.76 in	24.38 in	15-100 psi	Air	UD
52-52 NPS	52 NPS	2021.3 in <sup>2</sup>	50.74 in	25.37 in	15-100 psi	Air	UD
54-54 NPS	54 NPS	2182.1 in <sup>2</sup>	52.72 in	26.36 in	15-100 psi	Air	UD
56-56 NPS	56 NPS	2349.1 in <sup>2</sup>	54.7 in	27.35 in	15-100 psi	Air	UD
58-58 NPS	58 NPS	2522.3 in <sup>2</sup>	56.68 in	28.34 in	15-100 psi	Air	UD
60-60 NPS	60 NPS	2701.6 in <sup>2</sup>	58.66 in	29.33 in	15-100 psi	Air	UD
62-62 NPS	62 NPS	2887.1 in <sup>2</sup>	60.64 in	30.32 in	15-100 psi	Air	UD

64-64 NPS	64 NPS	3078.7 in <sup>2</sup>	62.63 in	31.31 in	15-100 psi	Air	UD
66-66 NPS	66 NPS	3276.5 in <sup>2</sup>	64.61 in	32.3 in	15-100 psi	Air	UD
68-68 NPS	68 NPS	3480.4 in <sup>2</sup>	66.59 in	33.29 in	15-100 psi	Air	UD
70-70 NPS	70 NPS	3690.5 in <sup>2</sup>	68.57 in	34.28 in	15-100 psi	Air	UD
72-72 NPS	72 NPS	3906.7 in <sup>2</sup>	70.55 in	35.27 in	15-100 psi	Air	UD
74-74 NPS	74 NPS	4129.1 in <sup>2</sup>	72.53 in	36.26 in	15-100 psi	Air	UD
76-76 NPS	76 NPS	4357.7 in <sup>2</sup>	74.51 in	37.25 in	15-100 psi	Air	UD
78-78 NPS	78 NPS	4592.4 in <sup>2</sup>	76.49 in	38.24 in	15-100 psi	Air	UD
80-80 NPS	80 NPS	4833.3 in <sup>2</sup>	78.47 in	39.23 in	15-100 psi	Air	UD
82-82 NPS	82 NPS	5080.3 in <sup>2</sup>	80.45 in	40.22 in	15-100 psi	Air	UD
84-84 NPS	84 NPS	5333.5 in <sup>2</sup>	82.43 in	41.41 in	15-100 psi	Air	UD
86-86 NPS	86 NPS	5592.9 in <sup>2</sup>	84.41 in	42.2 in	15-100 psi	Air	UD
88-88 NPS	88 NPS	5858.4 in <sup>2</sup>	86.39 in	43.19 in	15-100 psi	Air	UD
90-90 NPS	90 NPS	6130 in <sup>2</sup>	88.37 in	44.18 in	15-100 psi	Air	UD
92-92 NPS	92 NPS	6407.8 in <sup>2</sup>	90.35 in	45.17 in	15-100 psi	Air	UD
94-94 NPS	94 NPS	6691.8 in <sup>2</sup>	92.33 in	46.16 in	15-100 psi	Air	UD
96-96 NPS	96 NPS	6981.9 in <sup>2</sup>	94.31 in	47.15 in	15-100 psi	Air	UD

Design Name: BPRV, BPIV, TOV

NBCert #

77813

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UD

12/14/2029

#### Design Type

[Buckling Pin Non-reclosing Device] BPRV, BPIV, TOV

Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 12, 2004

Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl

Certified Value: 1.220 Unitless

Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)

Set Pressure Definition: Buckling Pressure

Flow Area Configuration: MNFA

Designed by: BS & B Premco LLC {PRL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		62.48 in <sup>2</sup>			1-2250 psi		UD
12 NPS		90.5 in <sup>2</sup>			1-2250 psi		UD
14 NPS		109 in <sup>2</sup>			1-1440 psi		UD
16 NPS		149 in <sup>2</sup>			1-1440 psi		UD
18 NPS		196.2 in <sup>2</sup>			1-1440 psi		UD
2 NPS		2.75 in <sup>2</sup>			15-3700 psi		UD
20 NPS		239.1 in <sup>2</sup>			1-720 psi		UD
24 NPS		367.6 in <sup>2</sup>			1-720 psi		UD
26 NPS		400.6 in <sup>2</sup>			1-720 psi		UD
28 NPS		466.8 in <sup>2</sup>			1-720 psi		UD
3 NPS		6 in <sup>2</sup>			15-3700 psi		UD
30 NPS		601 in <sup>2</sup>			1-720 psi		UD

32 NPS	614 in <sup>2</sup>	1-720 psi	UD
34 NPS	695 in <sup>2</sup>	1-720 psi	UD
36 NPS	781 in <sup>2</sup>	1-720 psi	UD
38 NPS	872 in <sup>2</sup>	1-720 psi	UD
4 NPS	10 in <sup>2</sup>	15-2250 psi	UD
40 NPS	968 in <sup>2</sup>	1-720 psi	UD
42 NPS	1069 in <sup>2</sup>	1-720 psi	UD
44 NPS	1175 in <sup>2</sup>	1-720 psi	UD
46 NPS	1286 in <sup>2</sup>	1-160 psi	UD
48 NPS	1403 in <sup>2</sup>	1-160 psi	UD
50 NPS	1524 in <sup>2</sup>	1-160 psi	UD
52 NPS	1650 in <sup>2</sup>	1-160 psi	UD
54 NPS	1784 in <sup>2</sup>	1-160 psi	UD
56 NPS	1918 in <sup>2</sup>	1-160 psi	UD
58 NPS	2059.4 in <sup>2</sup>	1-160 psi	UD
6 NPS	23.5 in <sup>2</sup>	1-2250 psi	UD
60 NPS	2206 in <sup>2</sup>	1-160 psi	UD
62 NPS	2357 in <sup>2</sup>	1-160 psi	UD
64 NPS	2514 in <sup>2</sup>	1-160 psi	UD
66 NPS	2675 in <sup>2</sup>	1-160 psi	UD
68 NPS	2842 in <sup>2</sup>	1-160 psi	UD
70 NPS	3013 in <sup>2</sup>	1-160 psi	UD
72 NPS	3190 in <sup>2</sup>	1-160 psi	UD
74 NPS	3371 in <sup>2</sup>	1-160 psi	UD
76 NPS	3558 in <sup>2</sup>	1-160 psi	UD
78 NPS	3750 in <sup>2</sup>	1-160 psi	UD
8 NPS	39.65 in <sup>2</sup>	1-2250 psi	UD

Design Name: VSP-SH, RCS

NBCert #

77947

Manufacturer/Assembler

Designators

Expiration Date

Manufacturer

UD

01/23/2030

#### Design Type

[Rupture Disk Device] VSP-SH, RCS

HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, S90-7R, S90-7R-TR, SMR-7R, SR-7R, SPR-7R, SRI-7RS, SHO-7R

Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on March 1, 2011

Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl

Certified Value: 1.770 Unitless

Media - Test: Air/Gas; Certified: Compressible (Krg)

Set Pressure Definition: Burst Pressure

Flow Area Configuration: MNFA

Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		68.65 in <sup>2</sup>			5.8-50 psi	Air	UD
12 NPS		102.28 in <sup>2</sup>			2.9-50 psi	Air	UD

14 NPS		121.86 in²		2.9-50 psi	Air	UD
16 NPS		156 in²		2.9-50 psi	Air	UD
18 NPS		198 in²		1.5-50 psi	Air	UD
20 NPS		246 in²		1.5-50 psi	Air	UD
22 NPS		313 in²		1.5-50 psi	Air	UD
24 NPS		357 in²		0.7-50 psi	Air	UD
26 NPS		441 in²		0.7-50 psi	Air	UD
28 NPS		514 in²		0.7-50 psi	Air	UD
30 NPS		592 in²		0.7-50 psi	Air	UD
32 NPS		706.9 in²		0.7-50 psi	Air	UD
36 NPS		868 in²		0.7-50 psi	Air	UD
38 NPS		959 in²		0.7-50 psi	Air	UD
40 NPS		1065 in²		0.7-50 psi	Air	UD
42 NPS		1176 in²		0.7-50 psi	Air	UD
44 NPS		1292 in²		0.7-50 psi	Air	UD
46 NPS		1415 in²		0.7-50 psi	Air	UD
48 NPS		1548 in²		0.7-50 psi	Air	UD
52 NPS		1815 in²		0.7-50 psi	Air	UD
56 NPS		2110 in²		0.7-50 psi	Air	UD
6 NPS		25.08 in²		7.3-140 psi	Air	UD
60 NPS		2426 in²		0.7-50 psi	Air	UD
8 NPS		42.07 in²		7.3-100 psi	Air	UD
1.5 NPS	NPS	1.89 in²	0 in	60-150 psi		UD
2 NPS	NPS	3.35 in²	0 in	45-150 psi		UD
3 NPS	NPS	6.53 in²	0 in	22-150 psi		UD
4 NPS	NPS	11.86 in²	0 in	8.7-150 psi		UD

## BS&B SAFETY SYSTEMS (INDIA) LIMITED (BIN)

Chennai, Tamil Nadu, 600097India

### This Company Manufactures or Assembles:

Design Name: B, BR, BRR (liquid)		NBCert #	77318
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	08/26/2027

## Design Type

[Rupture Disk Device] B, BR, BRR (liquid)  
 HolderDesignation: FA-7R, FA-1 - FA9, UA-2,3,5,6  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 12, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 1.470 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.189 in <sup>2</sup>			80-30000 psi		UD
1 NPS		0.801 in <sup>2</sup>			40-12000 psi		UD
1.5 NPS		1.76 in <sup>2</sup>			26-6000 psi		UD
10 NPS		78.85 in <sup>2</sup>			4-1400 psi		UD
12 NPS		112.5 in <sup>2</sup>			4-1000 psi		UD
14 NPS		137.9 in <sup>2</sup>			3-750 psi		UD
16 NPS		182.7 in <sup>2</sup>			3-500 psi		UD
18 NPS		233.7 in <sup>2</sup>			3-475 psi		UD
2 NPS		3.33 in <sup>2</sup>			16-6000 psi		UD
20 NPS		291 in <sup>2</sup>			2-450 psi		UD
24 NPS		424.6 in <sup>2</sup>			2-230 psi		UD
3 NPS		6.514 in <sup>2</sup>			12-6000 psi		UD
30 NPS		672 in <sup>2</sup>			2-184 psi		UD
32 NPS		767 in <sup>2</sup>			2-181 psi		UD
36 NPS		976 in <sup>2</sup>			6-160 psi		UD
4 NPS		11.82 in <sup>2</sup>			9-6000 psi		UD
40 NPS		1210 in <sup>2</sup>			6-145 psi		UD
42 NPS		1336 in <sup>2</sup>			3-138 psi		UD
44 NPS		1469 in <sup>2</sup>			6-132 psi		UD
6 NPS		28.84 in <sup>2</sup>			7-3600 psi		UD
8 NPS		49.89 in <sup>2</sup>			5-3600 psi		UD

Design Name: B, BR, BRR, Welded B

NBCert #

77037

Manufacturer/Assembler

Designators

Expiration Date

Manufacturer

UD

01/14/2028

## Design Type

[Rupture Disk Device] B, BR, BRR, Welded B  
 HolderDesignation: FA-7R, FA1,2,3,4,5,6,7,8,9,UA-2,3,5,6  
 Capacity Tests: Sec. UD at National Board Testing Lab on September 15, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.710 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.189 in <sup>2</sup>			80-30000 psi		UD
0.725 in		0.34 in <sup>2</sup>			900-20000 psi		UD
1 NPS		0.801 in <sup>2</sup>			40-12000 psi		UD
1.5 NPS		1.76 in <sup>2</sup>			26-6000 psi	Air	UD
10 NPS		78.85 in <sup>2</sup>			4-1400 psi		UD
12 NPS		112.5 in <sup>2</sup>			4-1000 psi		UD
14 NPS		137.9 in <sup>2</sup>			3-750 psi		UD
16 NPS		182.7 in <sup>2</sup>			3-500 psi		UD
18 NPS		233.7 in <sup>2</sup>			3-475 psi		UD
2 NPS		3.33 in <sup>2</sup>			16-6000 psi		UD
20 NPS		291 in <sup>2</sup>			2-450 psi		UD
24 NPS		424.6 in <sup>2</sup>			2-230 psi		UD
3 NPS		6.514 in <sup>2</sup>			12-6000 psi		UD
30 NPS		672 in <sup>2</sup>			2-184 psi		UD
32 NPS		767 in <sup>2</sup>			2-181 psi		UD
36 NPS		976 in <sup>2</sup>			6-160 psi		UD
4 NPS		11.82 in <sup>2</sup>			9-6000 psi		UD
40 NPS		1210 in <sup>2</sup>			6-145 psi		UD
42 NPS		1336 in <sup>2</sup>			6-138 psi		UD
44 NPS		1469 in <sup>2</sup>			6-132 psi		UD
6 NPS		28.84 in <sup>2</sup>			7-3600 psi		UD
8 NPS		49.9 in <sup>2</sup>			5-3600 psi		UD

Design Name:	BV, BRV, BSV, BRSV	NBCert #	77026
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/14/2028

#### Design Type

[Rupture Disk Device] BV, BRV, BSV, BRSV  
HolderDesignation: FA-7R, FA-7,FA-1,2,3,4,5,6,7,8,9,UA-2,3,5,6  
Capacity Tests: Sec. UD at National Board Testing Lab on July 13, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.800 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in <sup>2</sup>			145-12000 psi	Air	UD
1.5 NPS		1.44 in <sup>2</sup>			95-6000 psi	Air	UD
10 NPS		70.88 in <sup>2</sup>			14-1400 psi		UD
12 NPS		101.5 in <sup>2</sup>			12-1000 psi		UD
14 NPS		130.3 in <sup>2</sup>			11-750 psi		UD



16 NPS	176.7 in <sup>2</sup>	9-500 psi	UD
18 NPS	202.4 in <sup>2</sup>	8-475 psi	UD
2 NPS	2.24 in <sup>2</sup>	55-6000 psi	Air UD
20 NPS	280 in <sup>2</sup>	8-450 psi	UD
24 NPS	380.1 in <sup>2</sup>	37-230 psi	UD
3 NPS	5.41 in <sup>2</sup>	41-6000 psi	UD
30 NPS	615.7 in <sup>2</sup>	20-184 psi	UD
32 NPS	728 in <sup>2</sup>	31-181 psi	UD
36 NPS	927 in <sup>2</sup>	28-160 psi	UD
4 NPS	9.62 in <sup>2</sup>	31-6000 psi	UD
40 NPS	1149 in <sup>2</sup>	25-145 psi	UD
42 NPS	1269 in <sup>2</sup>	24-138 psi	UD
44 NPS	1395 in <sup>2</sup>	23-132 psi	UD
6 NPS	23.76 in <sup>2</sup>	23-3600 psi	UD
8 NPS	44.18 in <sup>2</sup>	18-3600 psi	UD

Design Name: BV,BRV,BSV,BRSV (liquid) NBCert # 77273

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 08/26/2027

#### Design Type

[Rupture Disk Device] BV,BRV,BSV,BRSV (liquid)  
HolderDesignation: FA-7R, FA-1 - FA-9,UA-,3,5,6  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 1, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 2.450 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in <sup>2</sup>			145-12000 psi		UD
1.5 NPS		1.44 in <sup>2</sup>			95-6000 psi		UD
10 NPS		70.88 in <sup>2</sup>			14-1400 psi		UD
12 NPS		101.5 in <sup>2</sup>			12-1000 psi		UD
14 NPS		130.3 in <sup>2</sup>			11-750 psi		UD
16 NPS		176.7 in <sup>2</sup>			9-500 psi		UD
18 NPS		202.4 in <sup>2</sup>			8-475 psi		UD
2 NPS		2.24 in <sup>2</sup>			55-6000 psi		UD
20 NPS		280 in <sup>2</sup>			8-450 psi		UD
24 NPS		380.1 in <sup>2</sup>			37-230 psi		UD
3 NPS		5.41 in <sup>2</sup>			41-6000 psi		UD
30 NPS		615.8 in <sup>2</sup>			20-184 psi		UD
32 NPS		728 in <sup>2</sup>			31-181 psi		UD
36 NPS		927 in <sup>2</sup>			28-160 psi		UD

4 NPS	9.62 in <sup>2</sup>	31-6000 psi	UD
40 NPS	1149 in <sup>2</sup>	25-145 psi	UD
42 NPS	1269 in <sup>2</sup>	24-138 psi	UD
44 NPS	1395 in <sup>2</sup>	23-132 psi	UD
6 NPS	23.76 in <sup>2</sup>	23-3600 psi	UD
8 NPS	44.18 in <sup>2</sup>	18-3600 psi	UD

Design Name:	GFN, GFA, XN, XN-85	NBCert #	77060
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	05/15/2029
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#### Design Type

[Rupture Disk Device] GFN, GFA, XN, XN-85  
HolderDesignation: NF-7RS, NF-7R, NFI-7RS  
Capacity Tests: Sec. UD at National Board Testing Lab on December 18, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.550 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			113-1800 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			81-1800 psi		UD
10 NPS		78.8 in <sup>2</sup>			45-1300 psi		UD
12 NPS		111.9 in <sup>2</sup>			41-1100 psi		UD
14 NPS		137.9 in <sup>2</sup>			37-750 psi		UD
16 NPS		176.7 in <sup>2</sup>			35-270 psi		UD
18 NPS		223.3 in <sup>2</sup>			33-240 psi		UD
2 NPS		3.36 in <sup>2</sup>			68-1800 psi		UD
20 NPS		277.9 in <sup>2</sup>			32-213 psi		UD
24 NPS		402 in <sup>2</sup>			30-177 psi		UD
3 NPS		7.39 in <sup>2</sup>			54-1600 psi		UD
4 NPS		12.7 in <sup>2</sup>			45-1400 psi		UD
6 NPS		28.9 in <sup>2</sup>			36-1400 psi		UD
8 NPS		50 in <sup>2</sup>			53-1300 psi		UD

Design Name:	JRS	NBCert #	77015
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	01/26/2030
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Design Type

[Rupture Disk Device] JRS  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRI-7RS  
Capacity Tests: Sec. UD at National Board Testing Lab on July 10, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.310 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in²			22-180 psi		UD
1.5 NPS		1.89 in²			20-150 psi		UD
10 NPS		68.65 in²			12-36 psi		UD
12 NPS		102.28 in²			12-33 psi		UD
14 NPS		121.86 in²			9-30 psi		UD
16 NPS		156 in²			7-28 psi		UD
18 NPS		198 in²			6-26 psi		UD
2 NPS		3.35 in²			18-120 psi		UD
20 NPS		246 in²			5-24 psi		UD
24 NPS		357 in²			5-22 psi		UD
3 NPS		6.53 in²			16-80 psi		UD
30 NPS		592 in²			5-14 psi		UD
32 NPS		706.9 in²			5-14 psi		UD
36 NPS		868 in²			5-14 psi		UD
4 NPS		11.86 in²			14-70 psi		UD
42 NPS		1111 in²			5-14 psi		UD
6 NPS		25.08 in²			12-50 psi		UD
8 NPS		42.07 in²			12-42 psi		UD
28 NPS	NPS	513 in²	0 in	0 in	5-18 psi		UD

Design Name: RLS, RLS Welded Assembly (liquid) NBCert # 77307

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/13/2028

Design Type

[Rupture Disk Device] RLS, RLS Welded Assembly (liquid)  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, S90-7R, S90-7R-TR, SMR-7R, SRI-7RS, SRB-7RS Special, SRB-QRS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 16, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 5.830 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.5 in²			300-6000 psi		UD
1 NPS		0.84 in²			125-6000 psi		UD

1.5 NPS	1.77 in <sup>2</sup>	85-5400 psi	UD
10 NPS	73.9 in <sup>2</sup>	35-1200 psi	UD
12 NPS	99 in <sup>2</sup>	35-900 psi	UD
14 NPS	131 in <sup>2</sup>	35-650 psi	UD
16 NPS	172 in <sup>2</sup>	25-550 psi	UD
18 NPS	219 in <sup>2</sup>	25-450 psi	UD
2 NPS	3.23 in <sup>2</sup>	70-4800 psi	UD
20 NPS	270 in <sup>2</sup>	20-350 psi	UD
3 NPS	6.44 in <sup>2</sup>	55-3800 psi	UD
4 NPS	11.54 in <sup>2</sup>	45-2800 psi	UD
6 NPS	26.4 in <sup>2</sup>	35-2000 psi	UD
8 NPS	47 in <sup>2</sup>	35-1600 psi	UD

Design Name: RLS, RLS Welded Assembly NBCert # 77059

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 05/19/2026

#### Design Type

[Rupture Disk Device] RLS, RLS Welded Assembly  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR, SRB-7FS, SRB-7FR-TR, SMR-7R, SRI-7RS, SRB-7RS Special, SRB-QRS  
 Capacity Tests: Sec. UD at National Board Testing Lab on August 12, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 1.140 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.5 in <sup>2</sup>			300-2000 psi		UD
1 NPS		0.84 in <sup>2</sup>			125-2200 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			85-1800 psi		UD
10 NPS		73.9 in <sup>2</sup>			35-250 psi		UD
12 NPS		99 in <sup>2</sup>			35-150 psi		UD
14 NPS		131 in <sup>2</sup>			35-130 psi		UD
16 NPS		172 in <sup>2</sup>			25-110 psi		UD
18 NPS		219 in <sup>2</sup>			25-90 psi		UD
2 NPS		3.23 in <sup>2</sup>			70-1800 psi		UD
20 NPS		270 in <sup>2</sup>			20-90 psi		UD
3 NPS		6.44 in <sup>2</sup>			55-1600 psi		UD
4 NPS		11.54 in <sup>2</sup>			45-1500 psi		UD
6 NPS		26.4 in <sup>2</sup>			35-650 psi		UD
8 NPS		47 in <sup>2</sup>			35-400 psi		UD

Design Name:	S90, S90 Welded Assembly	NBCert #	77082
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	05/23/2029

Design Type
[Rupture Disk Device] S90, S90 Welded Assembly HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR, SMR-7R, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS Capacity Tests: Sec. UD at National Board Testing Lab on July 27, 1998 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 1.130 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			75-1000 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			54-1000 psi		UD
10 NPS		78.8 in <sup>2</sup>			30-700 psi		UD
12 NPS		111 in <sup>2</sup>			27-600 psi		UD
14 NPS		135 in <sup>2</sup>			25-500 psi		UD
16 NPS		176 in <sup>2</sup>			23-475 psi		UD
18 NPS		223 in <sup>2</sup>			22-475 psi		UD
2 NPS		3.36 in <sup>2</sup>			45-1000 psi		UD
20 NPS		277 in <sup>2</sup>			20-250 psi		UD
24 NPS		402 in <sup>2</sup>			18-250 psi		UD
28 NPS		583 in <sup>2</sup>			20-250 psi		UD
3 NPS		7.39 in <sup>2</sup>			36-1000 psi		UD
30 NPS		672 in <sup>2</sup>			20-250 psi		UD
4 NPS		12.7 in <sup>2</sup>			30-800 psi		UD
40 NPS	NPS	1195 in <sup>2</sup>			20-250 psi	Air	UD
6 NPS		28.8 in <sup>2</sup>			24-800 psi		UD
8 NPS		50 in <sup>2</sup>			35-700 psi		UD

<b>BS&amp;B SAFETY SYSTEMS LTDA (BDD)</b>	Nameplate Abbreviation: BS&B
Sao Paulo, 13350-000Brazil	

**This Company Manufactures or Assembles:**

Design Name: BPAV (air/gas)		NBCert #	77981
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	07/09/2030

**Design Type**

[Buckling Pin Non-reclosing Device] BPAV (air/gas)  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 27, 2011  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.800 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift & MNFA  
Designed by: BS & B Premco LLC {PRL}  
Comments: Lifts listed are required total travel.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.72 in <sup>2</sup>	0.957 in	0.912 in	2100-3500 psi	Air	UD
1 NPS	1.5 NPS	0.86 in <sup>2</sup>	1.046 in	0.912 in	15-2100 psi	Air	UD
1.5 NPS	2 NPS	2.04 in <sup>2</sup>	1.612 in	1.051 in	15-1440 psi	Air	UD
2 NPS	3 NPS	3.36 in <sup>2</sup>	2.067 in	1.257 in	15-720 psi	Air	UD
3 NPS	4 NPS	7.39 in <sup>2</sup>	3.067 in	1.755 in	15-720 psi	Air	UD
4 NPS	6 NPS	12.73 in <sup>2</sup>	4.026 in	2.084 in	15-720 psi	Air	UD
6 NPS	8, 10 NPS	28.89 in <sup>2</sup>	6.065 in	2.61 in	15-275 psi	Air	UD
8 NPS	10 NPS	50.03 in <sup>2</sup>	7.981 in	3.304 in	15-275 psi	Air	UD

Design Name: BPAV (Liquid) NBCert # 77970

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

07/09/2030

**Design Type**

[Buckling Pin Non-reclosing Device] BPAV (Liquid)  
Capacity Tests: Sec. UD at National Board Testing Lab on May 3, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.686 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: BS & B Premco LLC {PRL}  
Comments: Lifts listed are required total travel.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.72 in <sup>2</sup>	0.957 in	0.912 in	2100-3500 psi	Water	UD
1 NPS	1.5 NPS	0.86 in <sup>2</sup>	1.046 in	0.912 in	50-2100 psi	Water	UD
1.5 NPS	2 NPS	2.04 in <sup>2</sup>	1.612 in	1.051 in	15-1440 psi	Water	UD
2 NPS	3 NPS	3.36 in <sup>2</sup>	2.067 in	1.257 in	15-720 psi	Water	UD
3 NPS	4 NPS	7.39 in <sup>2</sup>	3.067 in	1.755 in	15-720 psi	Water	UD
4 NPS	6 NPS	12.73 in <sup>2</sup>	4.026 in	2.084 in	15-720 psi	Water	UD
6 NPS	8, 10 NPS	28.89 in <sup>2</sup>	6.065 in	2.61 in	15-275 psi	Water	UD
8 NPS	10 NPS	50.03 in <sup>2</sup>	7.981 in	3.304 in	15-275 psi	Water	UD

Design Name: BPCV (Air/Gas) NBCert # 78386

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

09/10/2030

**Design Type**

[Buckling Pin Non-reclosing Device] BPCV (Air/Gas)  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 12, 2017  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.706 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Buckling Pressure  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: BS & B Premco LLC {PRL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.72 in <sup>2</sup>	0.957 in	0.371 in	2101-3500 psi	Air	UD
1 NPS	1 NPS	0.86 in <sup>2</sup>	1.05 in	0.371 in	15-2100 psi	Air	UD
1.5 NPS	1.5 NPS	2.04 in <sup>2</sup>	1.61 in	0.547 in	15-1440 psi	Air	UD
2 NPS	2 NPS	3.36 in <sup>2</sup>	2.07 in	0.703 in	15-720 psi	Air	UD
3 NPS	3 NPS	7.39 in <sup>2</sup>	3.07 in	1.016 in	15-720 psi	Air	UD
4 NPS	4 NPS	12.73 in <sup>2</sup>	4.03 in	1.328 in	15-720 psi	Air	UD
6 NPS	6 NPS	28.89 in <sup>2</sup>	6.07 in	1.953 in	15-275 psi	Air	UD
8 NPS	8 NPS	50.03 in <sup>2</sup>	7.981 in	2.656 in	15-275 psi	Air	UD
10 NPS	10 NPS	78.81 in <sup>2</sup>	10.02 in	3.281 in	15-275 psi	Air	UD
12 NPS	12 NPS	113.04 in <sup>2</sup>	12 in	3.906 in	15-275 psi	Air	UD
14 NPS	14 NPS	137.81 in <sup>2</sup>	13.25 in	4.297 in	15-275 psi	Air	UD

Design Name: BPCV (Liquid)

NBCert # 78397

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

09/10/2030

**Design Type**

[Buckling Pin Non-reclosing Device] BPCV (Liquid)  
 Capacity Tests: Sec. UD at National Board Testing Lab on June 4, 2018  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.617 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: Buckling Pressure  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: BS & B Premco LLC {PRL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.72 in <sup>2</sup>	0.957 in	0.371 in	2101-3500 psi	Water	UD
1 NPS	1 NPS	0.86 in <sup>2</sup>	1.05 in	0.371 in	15-2100 psi	Water	UD
1.5 NPS	1.5 NPS	2.04 in <sup>2</sup>	1.61 in	0.547 in	15-1440 psi	Water	UD
2 NPS	2 NPS	3.36 in <sup>2</sup>	2.07 in	0.703 in	15-720 psi	Water	UD
3 NPS	3 NPS	7.39 in <sup>2</sup>	3.07 in	1.016 in	15-720 psi	Water	UD
4 NPS	4 NPS	12.73 in <sup>2</sup>	4.03 in	1.328 in	15-720 psi	Water	UD
6 NPS	6 NPS	28.89 in <sup>2</sup>	6.07 in	1.953 in	15-275 psi	Water	UD
8 NPS	8 NPS	50.03 in <sup>2</sup>	7.981 in	2.656 in	15-275 psi	Water	UD
10 NPS	10 NPS	78.81 in <sup>2</sup>	10.02 in	3.281 in	15-275 psi	Water	UD
12 NPS	12 NPS	113.04 in <sup>2</sup>	12 in	3.906 in	15-275 psi	Water	UD
14 NPS	14 NPS	137.81 in <sup>2</sup>	13.25 in	4.297 in	15-275 psi	Water	UD

Design Name:	BPRV, BPIV, TOV	NBCert #	77813
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	09/10/2030
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#### Design Type

[Buckling Pin Non-reclosing Device] BPRV, BPIV, TOV  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 12, 2004  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.220 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Premco LLC {PRL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		62.48 in <sup>2</sup>			1-2250 psi		UD
12 NPS		90.5 in <sup>2</sup>			1-2250 psi		UD
14 NPS		109 in <sup>2</sup>			1-1440 psi		UD
16 NPS		149 in <sup>2</sup>			1-1440 psi		UD
18 NPS		196.2 in <sup>2</sup>			1-1440 psi		UD
2 NPS		2.75 in <sup>2</sup>			15-3700 psi		UD
20 NPS		239.1 in <sup>2</sup>			1-720 psi		UD
24 NPS		367.6 in <sup>2</sup>			1-720 psi		UD
26 NPS		400.6 in <sup>2</sup>			1-720 psi		UD
28 NPS		466.8 in <sup>2</sup>			1-720 psi		UD
3 NPS		6 in <sup>2</sup>			15-3700 psi		UD
30 NPS		601 in <sup>2</sup>			1-720 psi		UD
32 NPS		614 in <sup>2</sup>			1-720 psi		UD
34 NPS		695 in <sup>2</sup>			1-720 psi		UD
36 NPS		781 in <sup>2</sup>			1-720 psi		UD
38 NPS		872 in <sup>2</sup>			1-720 psi		UD
4 NPS		10 in <sup>2</sup>			15-2250 psi		UD
40 NPS		968 in <sup>2</sup>			1-720 psi		UD
42 NPS		1069 in <sup>2</sup>			1-720 psi		UD
44 NPS		1175 in <sup>2</sup>			1-720 psi		UD
46 NPS		1286 in <sup>2</sup>			1-160 psi		UD
48 NPS		1403 in <sup>2</sup>			1-160 psi		UD
50 NPS		1524 in <sup>2</sup>			1-160 psi		UD
52 NPS		1650 in <sup>2</sup>			1-160 psi		UD
54 NPS		1784 in <sup>2</sup>			1-160 psi		UD
56 NPS		1918 in <sup>2</sup>			1-160 psi		UD
58 NPS		2059.4 in <sup>2</sup>			1-160 psi		UD
6 NPS		23.5 in <sup>2</sup>			1-2250 psi		UD
60 NPS		2206 in <sup>2</sup>			1-160 psi		UD



62 NPS	2357 in²	1-160 psi	UD
64 NPS	2514 in²	1-160 psi	UD
66 NPS	2675 in²	1-160 psi	UD
68 NPS	2842 in²	1-160 psi	UD
70 NPS	3013 in²	1-160 psi	UD
72 NPS	3190 in²	1-160 psi	UD
74 NPS	3371 in²	1-160 psi	UD
76 NPS	3558 in²	1-160 psi	UD
78 NPS	3750 in²	1-160 psi	UD
8 NPS	39.65 in²	1-2250 psi	UD

Design Name:	GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS	NBCert #	77611
Manufacturer/Assembler	Designators	Expiration Date	

Manufacturer UD 08/15/2028

#### Design Type

[Rupture Disk Device] GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS  
HolderDesignation: GR-C, FM-C, not req'd for -SM  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on November 22, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.950 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.5 in²			10-300 psi	Air	UD
3 NPS		5.29 in²			10-175 psi		UD
4 NPS		9.78 in²			10-150 psi		UD
6 NPS		22.5 in²			10-75 psi		UD
48.3 DN	DN	2.38 in²	0 in	0 in	10-300 psi		UD
60.3 DN	DN	3.85 in²	0 in	0 in	10-175 psi		UD
76.1 DN	DN	6.33 in²	0 in	0 in	10-175 psi		UD

Design Name:	GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS (liquids)	NBCert #	78195
Manufacturer/Assembler	Designators	Expiration Date	

Manufacturer UD 08/16/2028

#### Design Type

[Rupture Disk Device] GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS (liquids)  
HolderDesignation: GR-C, FM-C (not req'd for SM)  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 5, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 2.750 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.5 in <sup>2</sup>			10-300 psi		UD
3 NPS		5.29 in <sup>2</sup>			10-175 psi		UD
4 NPS		9.78 in <sup>2</sup>			10-150 psi		UD
6 NPS		22.5 in <sup>2</sup>			10-75 psi		UD
48.3 DN	DN	2.38 in <sup>2</sup>	0 in	0 in	10-300 psi		UD
60.3 DN	DN	3.85 in <sup>2</sup>	0 in	0 in	10-300 psi		UD
76.1 DN	DN	6.33 in <sup>2</sup>	0 in	0 in	10-300 psi		UD

Design Name: GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2" liquids) NBCert # 78207

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 08/16/2028

#### Design Type

[Rupture Disk Device] GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2" liquids)  
HolderDesignation: GR-C, FM-C, not req'd for -SM  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 25, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
Certified Value: 1.420 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.7 in <sup>2</sup>			10-300 psi	Water	UD

Design Name: GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2") NBCert # 77420

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 08/17/2028

#### Design Type

[Rupture Disk Device] GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2")  
HolderDesignation: GR-C, FM-C , not req'd for -SM  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on January 10, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 1.250 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.7 in <sup>2</sup>			10-300 psi	Air	UD

Design Name: GFN, GFA, XN, XN-85 NBCert # 77060

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/06/2028

## Design Type

[Rupture Disk Device] GFN, GFA, XN, XN-85  
 HolderDesignation: NF-7RS, NF-7R, NFI-7RS  
 Capacity Tests: Sec. UD at National Board Testing Lab on December 18, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.550 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			113-1800 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			81-1800 psi		UD
10 NPS		78.8 in <sup>2</sup>			45-1300 psi		UD
12 NPS		111.9 in <sup>2</sup>			41-1100 psi		UD
14 NPS		137.9 in <sup>2</sup>			37-750 psi		UD
16 NPS		176.7 in <sup>2</sup>			35-270 psi		UD
18 NPS		223.3 in <sup>2</sup>			33-240 psi		UD
2 NPS		3.36 in <sup>2</sup>			68-1800 psi		UD
20 NPS		277.9 in <sup>2</sup>			32-213 psi		UD
24 NPS		402 in <sup>2</sup>			30-177 psi		UD
3 NPS		7.39 in <sup>2</sup>			54-1600 psi		UD
4 NPS		12.7 in <sup>2</sup>			45-1400 psi		UD
6 NPS		28.9 in <sup>2</sup>			36-1400 psi		UD
8 NPS		50 in <sup>2</sup>			53-1300 psi		UD

Design Name: JRS

NBCert # 77015

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	05/23/2030

## Design Type

[Rupture Disk Device] JRS  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRI-7RS  
 Capacity Tests: Sec. UD at National Board Testing Lab on July 10, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.310 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			22-180 psi		UD
1.5 NPS		1.89 in <sup>2</sup>			20-150 psi		UD
10 NPS		68.65 in <sup>2</sup>			12-36 psi		UD
12 NPS		102.28 in <sup>2</sup>			12-33 psi		UD
14 NPS		121.86 in <sup>2</sup>			9-30 psi		UD
16 NPS		156 in <sup>2</sup>			7-28 psi		UD
18 NPS		198 in <sup>2</sup>			6-26 psi		UD

2 NPS		3.35 in <sup>2</sup>			18-120 psi	UD
20 NPS		246 in <sup>2</sup>			5-24 psi	UD
24 NPS		357 in <sup>2</sup>			5-22 psi	UD
3 NPS		6.53 in <sup>2</sup>			16-80 psi	UD
30 NPS		592 in <sup>2</sup>			5-14 psi	UD
32 NPS		706.9 in <sup>2</sup>			5-14 psi	UD
36 NPS		868 in <sup>2</sup>			5-14 psi	UD
4 NPS		11.86 in <sup>2</sup>			14-70 psi	UD
42 NPS		1111 in <sup>2</sup>			5-14 psi	UD
6 NPS		25.08 in <sup>2</sup>			12-50 psi	UD
8 NPS		42.07 in <sup>2</sup>			12-42 psi	UD
28 NPS	NPS	513 in <sup>2</sup>	0 in	0 in	5-18 psi	UD

Design Name: LPS, LPS Welded Assembly NBCert # 77745

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/15/2028

**Design Type**  
[Rupture Disk Device] LPS, LPS Welded Assembly  
HolderDesignation: SRB-7RS, SRB-7FS, SR-7R, SMR-7R, SRI-7RS, SRB-QRS, SRB-7RS-TR, SRB-7FS-TR & S90-7R-TR  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 20, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.790 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.59 in <sup>2</sup>			15-70 psi		UD
1 NPS		0.86 in <sup>2</sup>			15-70 psi		UD
1.5 NPS		1.93 in <sup>2</sup>			6-55 psi		UD
10 NPS		78.86 in <sup>2</sup>			5-25 psi		UD
12 NPS		111.87 in <sup>2</sup>			5-25 psi	Air	UD
2 NPS		3.36 in <sup>2</sup>			5-40 psi		UD
3 NPS		7.39 in <sup>2</sup>			5-50 psi		UD
4 NPS		12.74 in <sup>2</sup>			5-30 psi		UD
6 NPS		28.89 in <sup>2</sup>			5-25 psi		UD
8 NPS		50 in <sup>2</sup>			5-25 psi		UD

Design Name: LPS, LPS Welded Assembly (liquid) NBCert # 77756

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	05/23/2030

## Design Type

[Rupture Disk Device] LPS, LPS Welded Assembly (liquid)  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SR-7R, SMR-7R, SRI-7RS, S90-7R-TR, SRB-QRS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 20, 2002  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 0.860 Unitless  
 Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	0.75 NPS	0.59 in <sup>2</sup>			15-70 psi	Water	UD
1 NPS		0.86 in <sup>2</sup>			15-70 psi		UD
1.5 NPS		1.93 in <sup>2</sup>			6-55 psi		UD
10 NPS		78.86 in <sup>2</sup>			5-25 psi		UD
12 NPS		111.87 in <sup>2</sup>			5-25 psi	Water	UD
2 NPS		3.36 in <sup>2</sup>			5-40 psi		UD
3 NPS		7.39 in <sup>2</sup>			5-50 psi		UD
4 NPS		12.74 in <sup>2</sup>			5-30 psi		UD
6 NPS		28.89 in <sup>2</sup>			5-25 psi		UD
8 NPS		50 in <sup>2</sup>			5-25 psi		UD

Design Name: RLS, RLS Welded Assembly (liquid) NBCert # 77307

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/16/2028

## Design Type

[Rupture Disk Device] RLS, RLS Welded Assembly (liquid)  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, S90-7R, S90-7R-TR, SMR-7R, SRI-7RS, SRB-7RS Special, SRB-QRS  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 16, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 5.830 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.5 in <sup>2</sup>			300-6000 psi		UD
1 NPS		0.84 in <sup>2</sup>			125-6000 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			85-5400 psi		UD
10 NPS		73.9 in <sup>2</sup>			35-1200 psi		UD
12 NPS		99 in <sup>2</sup>			35-900 psi		UD
14 NPS		131 in <sup>2</sup>			35-650 psi		UD
16 NPS		172 in <sup>2</sup>			25-550 psi		UD
18 NPS		219 in <sup>2</sup>			25-450 psi		UD
2 NPS		3.23 in <sup>2</sup>			70-4800 psi		UD
20 NPS		270 in <sup>2</sup>			20-350 psi		UD
3 NPS		6.44 in <sup>2</sup>			55-3800 psi		UD

4 NPS	11.54 in <sup>2</sup>	45-2800 psi	UD
6 NPS	26.4 in <sup>2</sup>	35-2000 psi	UD
8 NPS	47 in <sup>2</sup>	35-1600 psi	UD

Design Name: RLS, RLS Welded Assembly NBCert # 77059

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/15/2028

#### Design Type

[Rupture Disk Device] RLS, RLS Welded Assembly  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR, SRB-7FS, SRB-7FR-TR, SMR-7R, SRI-7RS, SRB-7RS Special, SRB-QRS  
 Capacity Tests: Sec. UD at National Board Testing Lab on August 12, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 1.140 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.5 in <sup>2</sup>			300-2000 psi		UD
1 NPS		0.84 in <sup>2</sup>			125-2200 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			85-1800 psi		UD
10 NPS		73.9 in <sup>2</sup>			35-250 psi		UD
12 NPS		99 in <sup>2</sup>			35-150 psi		UD
14 NPS		131 in <sup>2</sup>			35-130 psi		UD
16 NPS		172 in <sup>2</sup>			25-110 psi		UD
18 NPS		219 in <sup>2</sup>			25-90 psi		UD
2 NPS		3.23 in <sup>2</sup>			70-1800 psi		UD
20 NPS		270 in <sup>2</sup>			20-90 psi		UD
3 NPS		6.44 in <sup>2</sup>			55-1600 psi		UD
4 NPS		11.54 in <sup>2</sup>			45-1500 psi		UD
6 NPS		26.4 in <sup>2</sup>			35-650 psi		UD
8 NPS		47 in <sup>2</sup>			35-400 psi		UD

Design Name: S90, S90 Welded Assembly NBCert # 77082

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/16/2028

#### Design Type

[Rupture Disk Device] S90, S90 Welded Assembly  
 HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR, SMR-7R, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS  
 Capacity Tests: Sec. UD at National Board Testing Lab on July 27, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 1.130 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			75-1000 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			54-1000 psi		UD
10 NPS		78.8 in <sup>2</sup>			30-700 psi		UD
12 NPS		111 in <sup>2</sup>			27-600 psi		UD
14 NPS		135 in <sup>2</sup>			25-500 psi		UD
16 NPS		176 in <sup>2</sup>			23-475 psi		UD
18 NPS		223 in <sup>2</sup>			22-475 psi		UD
2 NPS		3.36 in <sup>2</sup>			45-1000 psi		UD
20 NPS		277 in <sup>2</sup>			20-250 psi		UD
24 NPS		402 in <sup>2</sup>			18-250 psi		UD
28 NPS		583 in <sup>2</sup>			20-250 psi		UD
3 NPS		7.39 in <sup>2</sup>			36-1000 psi		UD
30 NPS		672 in <sup>2</sup>			20-250 psi		UD
4 NPS		12.7 in <sup>2</sup>			30-800 psi		UD
40 NPS	NPS	1195 in <sup>2</sup>			20-250 psi	Air	UD
6 NPS		28.8 in <sup>2</sup>			24-800 psi		UD
8 NPS		50 in <sup>2</sup>			35-700 psi		UD

Design Name:	SKR, SKR Welded Assembly	NBCert #	77161
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	08/29/2025
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#### Design Type

[Rupture Disk Device] SKR, SKR Welded Assembly  
HolderDesignation: SRB-7RS, SRB-7RS-TR, S90-7R, S90-7R-TR SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS  
Capacity Tests: Sec. UD at National Board Testing Lab on April 24, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.370 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.59 in <sup>2</sup>			55-500 psi	Air	UD
1 NPS		0.86 in <sup>2</sup>			55-500 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			40-500 psi		UD
10 NPS		78.86 in <sup>2</sup>			11-150 psi		UD
12 NPS		117.87 in <sup>2</sup>			9-110 psi		UD
2 NPS		3.36 in <sup>2</sup>			25-550 psi		UD
3 NPS		7.39 in <sup>2</sup>			20-500 psi		UD
4 NPS		12.74 in <sup>2</sup>			16-500 psi		UD
6 NPS		28.89 in <sup>2</sup>			15-261 psi		UD
8 NPS		50 in <sup>2</sup>			15-200 psi		UD

Design Name: SKR, SKR Welded Assembly (Liquids)		NBCert #	77329
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UD	08/16/2028	
Design Type			
[Rupture Disk Device] SKR, SKR Welded Assembly (Liquids) HolderDesignation: S90-7R, S90-7R-TR, SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SRI-7RS, SRB-QRS Capacity Tests: Sec. UD at National Board Testing Lab on April 30, 1999 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl Certified Value: 1.900 Unitless Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, Ltd. {BSI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.59 in <sup>2</sup>			55-500 psi	Water	UD
1 NPS		0.86 in <sup>2</sup>			55-500 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			40-500 psi		UD
10 NPS		78.86 in <sup>2</sup>			11-150 psi		UD
12 NPS		117.87 in <sup>2</sup>			9-110 psi		UD
2 NPS		3.36 in <sup>2</sup>			25-550 psi		UD
3 NPS		7.39 in <sup>2</sup>			20-500 psi		UD
4 NPS		12.74 in <sup>2</sup>			16-500 psi		UD
6 NPS		28.89 in <sup>2</sup>			15-261 psi		UD
8 NPS		50 in <sup>2</sup>			15-200 psi		UD

Caliber Valve and Controls LLC (CLV)	Nameplate Abbreviation: Caliber Valve & Controls
Lake Charles, LA 70615United States	

# This Company Manufactures or Assembles:

Design Name: 78 (Pilot Operated)		NBCert #	44053
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	01/08/2027	
Design Type			
[Pilot Operated Pressure Relief Valve] 78 (Pilot Operated) Capacity Tests: Sec. UV at National Board Testing Lab on August 5, 1999 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM Flow Technologies - France SAS {SAR}			



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.53 in	26.1-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.53 in	29-740 psi	Steam	UV
1-1.5 NPS	2 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.53 in	26.1-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.53 in	29-740 psi	Steam	UV
1-1.5 NPS	2 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.53 in	26.1-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.53 in	29-740 psi	Steam	UV
1.5-2 NPS	3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.7 in	26.1-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.7 in	29-740 psi	Steam	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.7 in	26.1-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.7 in	29-740 psi	Steam	UV
2-3 NPS	3,4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.8 in	26.1-6250 psi	Air	UV
2-3 NPS	3,4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.8 in	29-740 psi	Steam	UV
3 NPS	4 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	1.18 in	26.1-3750 psi	Air	UV
3 NPS	4 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	1.18 in	29-740 psi	Steam	UV
3-4 NPS	4,6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	1.18 in	26.1-3750 psi	Air	UV
3-4 NPS	4,6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	1.18 in	29-740 psi	Steam	UV
4 NPS	6 NPS	4.095 in <sup>2</sup>	[M] 2.284 in	1.57 in	26.1-3750 psi	Air	UV
4 NPS	6 NPS	4.095 in <sup>2</sup>	[M] 2.284 in	1.57 in	29-740 psi	Steam	UV
4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	1.57 in	26.1-3750 psi	Air	UV
4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	1.57 in	29-740 psi	Steam	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.57 in	26.1-3750 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.57 in	29-740 psi	Steam	UV
6 NPS	8 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	2.16 in	26.1-3750 psi	Air	UV
6 NPS	8 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	2.16 in	29-740 psi	Steam	UV
6 NPS	8 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.16 in	26.1-1500 psi	Air	UV
6 NPS	8 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.16 in	29-740 psi	Steam	UV
8-8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	2.99 in	26.1-1500 psi	Air	UV
8-8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	2.99 in	29-740 psi	Steam	UV

Design Name: 9 Series	NBCert # 44019
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/18/2027

#### Design Type

[Safety Relief Valve] 9 Series  
 Capacity Tests: Sec. UV at National Board Testing Lab on July 24, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.823 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-4700 psi	Air	UV
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-4700 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Steam	UV

Design Name:	P3, P4 (liquids)	NBCert #	92012
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	01/08/2027
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#### Design Type

[Relief Valve] P3, P4 (liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in <sup>2</sup>	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in <sup>2</sup>	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V

Design Name: P3, P4, P5	NBCert # 92001
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	01/08/2027
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#### Design Type

[Safety Relief Valve] P3, P4, P5  
 Capacity Tests: Sec. UV at unknown lab on June 5, 1986  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.876 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Air	UV
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Air	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-2900 psi	Steam	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Air	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-2900 psi	Steam	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Air	UV
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-2900 psi	Steam	UV
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Air	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Steam	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Air	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Steam	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Air	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Steam	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Air	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Steam	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Air	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Steam	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Air	UV

10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Steam	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Air	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Steam	UV

Design Name: STARFLOW-V NBCert # 44110

Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 01/08/2027

#### Design Type

[Safety Valve] STARFLOW-V  
Capacity Tests: Sec. UV, V at National Board Testing Lab on April 26, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}  
Comments: org. date added and V orif. area corrected from 38.548 to 38.485 JB 8-10-20  
corrected H inlet to add 1.5" JB -8-2-21

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.172 in	30-2250 psi	Steam	UV, V
1.25-2 NPS	1.5-3 NPS	0.589 in <sup>2</sup>	[G] 0.8661 in	0.217 in	30-2250 psi	Steam	UV, V
1.5-2 NPS	2.5, 3 NPS	0.996 in <sup>2</sup>	[H] 1.126 in	0.281 in	30-2250 psi	Steam	UV, V
1.5-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.3622 in	0.341 in	30-2250 psi	Steam	UV, V
2-3 NPS	3-6 NPS	1.667 in <sup>2</sup>	[K] 1.457 in	0.364 in	30-2250 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.758 in <sup>2</sup>	[L] 1.874 in	0.469 in	30-2250 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.983 in <sup>2</sup>	[M] 2.252 in	0.563 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[N] 2.5984 in	0.65 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.75 in	30-2250 psi	Steam	UV, V
6 NPS	8 NPS	10.148 in <sup>2</sup>	[Q] 3.594 in	0.902 in	30-1494 psi	Steam	UV, V
6 NPS	8, 10 NPS	14.173 in <sup>2</sup>	[R] 4.248 in	1.062 in	30-1494 psi	Steam	UV, V
8 NPS	10 NPS	23.997 in <sup>2</sup>	[T] 5.528 in	1.382 in	30-740 psi	Steam	UV, V
10 NPS	14 NPS	38.485 in <sup>2</sup>	[V] 7 in	1.75 in	30-740 psi	Steam	UV, V
12 NPS	2x12 NPS	55.438 in <sup>2</sup>	[W] 8.402 in	2.1 in	30-740 psi	Steam	UV, V

Design Name: STARFLOW-V (Restricted Lift) NBCert # 44121

Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 05/18/2027

## Design Type

[Safety Valve] STARFLOW-V (Restricted Lift)  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on April 27, 2017  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.876 Unitless  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Restricted Lift  
 Designed by: TRILLIUM Flow Technologies - France SAS {SAR}  
 Comments: Org. date added and "V" orif. area corrected from 34.485 to 38.485 JB 8-10-20  
 corrected H by adding 1.5" inlet JB 8-2-21

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.095 in	30-2250 psi	Steam	UV, V
1.25-2 NPS	1.5-3 NPS	0.589 in <sup>2</sup>	[G] 0.8661 in	0.119 in	30-2250 psi	Steam	UV, V
1.5-2 NPS	2.5, 3 NPS	0.996 in <sup>2</sup>	[H] 1.126 in	0.156 in	30-2250 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.3622 in	0.188 in	30-2250 psi	Steam	UV, V
2-3 NPS	3-6 NPS	1.667 in <sup>2</sup>	[K] 1.457 in	0.201 in	30-2250 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.758 in <sup>2</sup>	[L] 1.874 in	0.258 in	30-2250 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.983 in <sup>2</sup>	[M] 2.252 in	0.31 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[N] 2.5984 in	0.357 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.414 in	30-2250 psi	Steam	UV, V
6 NPS	8 NPS	10.148 in <sup>2</sup>	[Q] 3.594 in	0.496 in	30-1494 psi	Steam	UV, V
6 NPS	8, 10 NPS	14.173 in <sup>2</sup>	[R] 4.248 in	0.584 in	30-1494 psi	Steam	UV, V
8 NPS	10 NPS	23.997 in <sup>2</sup>	[T] 5.528 in	0.76 in	30-740 psi	Steam	UV, V
10 NPS	14 NPS	38.485 in <sup>2</sup>	[V] 7 in	0.963 in	30-740 psi	Steam	UV, V
12 NPS	2x12 NPS	55.438 in <sup>2</sup>	[W] 8.402 in	1.155 in	30-740 psi	Steam	UV, V

Design Name: Starsteam V Series (Res. Lift) NBCert # 92045

Manufacturer/Assembler	Designators	Expiration Date
Assembler	V	05/18/2027

## Design Type

[Safety Valve] Starsteam V Series (Res. Lift)  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on August 6, 2012  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Restricted Lift  
 Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	3 NPS	0.996 in <sup>2</sup>	[1] 1.125 in	0.156 in	15-6525 psi	Steam	UV, V
2 NPS	3 NPS	1.667 in <sup>2</sup>	[2] 1.456 in	0.201 in	15-6525 psi	Steam	UV, V
2.5 NPS	6 NPS	2.758 in <sup>2</sup>	[3] 1.874 in	0.258 in	15-6525 psi	Steam	UV, V
3 NPS	6 NPS	3.983 in <sup>2</sup>	[4] 2.251 in	0.309 in	15-6525 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[5] 2.598 in	0.357 in	15-6525 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[6] 3 in	0.414 in	15-3280 psi	Steam	UV, V

6 NPS	8 NPS	11.056 in <sup>2</sup>	[Q] 3.571 in	0.517 in	15-2798 psi	Steam	UV, V
6 NPS	10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	0.619 in	15-1580 psi	Steam	UV, V
6 NPS	10 NPS	19.299 in <sup>2</sup>	[RR] 4.957 in	0.681 in	15-1580 psi	Steam	UV, V
8 NPS	10 NPS	27.391 in <sup>2</sup>	[T] 5.905 in	0.812 in	15-1190 psi	Steam	UV, V

Caltrol, Inc. (THI)

PARAMOUNT, CA 90723United States

This Company Manufactures or Assembles:

Design Name: 243/249/443/449/546/843/849/943/5046/5049/8043/8049		NBCert # 01292
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/23/2030
Design Type		
[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049 Capacity Tests: Sec. UV at unknown lab on August 8, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 253/259/453/459/853/859/953/959/5059/8053/8059		NBCert # 01304
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/23/2030

## Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
 Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.627 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/25/2030

## Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.767 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/23/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.491 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 81, 81P, 83, 84 NBCert # 01089

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/23/2030



## Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
 Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.816 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
 Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 81P (Liquids)

NBCert #

01102

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/23/2030

## Design Type

[Relief Valve] 81P (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.720 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: 93% of pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC		NBCert #	15499
Manufacturer/Assembler	Designators		Expiration Date
Assembler	UV		04/23/2030
Design Type			
[Relief Valve] 900 Series (Liquid), 7700, SNC Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.661 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids)		NBCert #	15095
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	04/23/2030
Design Type			
[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids) Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.656 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V

1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/23/2030

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

04/23/2030

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV

2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

**CARRARO S.R.L. (CAO)**

Nameplate Abbreviation: CARRARO

Segrate (MI), 20054Italy

**This Company Manufactures or Assembles:**

Design Name: CS 35 / G		NBCert #	95408
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	08/12/2027	
Design Type			
[Safety Relief Valve] CS 35 / G Capacity Tests: Sec. UV at National Board Testing Lab on April 10, 2014 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:22.250 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: CARRARO S.R.L. {CAO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	706.5 mm <sup>2</sup>	[G] 30 mm	11.5 mm	1-29 bar	Water	UV

Design Name: CS 35 / J		NBCert #	95419
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	02/02/2027	
Design Type			
[Safety Relief Valve] CS 35 / J Capacity Tests: Sec. UV at National Board Testing Lab on April 10, 2014 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:42.030 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: CARRARO S.R.L. {CAO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	1256 mm <sup>2</sup>	[J] 40 mm	17 mm	1-30 bar	Water	UV

Design Name: CS80-SA, CS91-SA		NBCert #	95420
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	08/02/2027	

Design Type

[Safety Relief Valve] CS80-SA, CS91-SA  
Capacity Tests: Sec. UV at National Board Testing Lab on May 13, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: CARRARO S.R.L. {CAO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS	86.5 mm²	[D] 10.5 mm	3.5 mm	1-97.2 bar	Air	UV
1 NPS	1.25 NPS	143 mm²	[E] 13.5 mm	4.5 mm	1-83.8 bar	Air	UV
1.25 NPS	1.5 NPS	226.8 mm²	[F] 17 mm	5.7 mm	1-62.4 bar	Air	UV
1.25 NPS	1.5 NPS	362.8 mm²	[G] 21.5 mm	7.2 mm	1-52.9 bar	Air	UV
1.5 NPS	2.5 NPS	551.2 mm²	[H] 26.5 mm	8.8 mm	1-70 bar	Air	UV
1.5 NPS	2.5 NPS	907.4 mm²	[J] 34 mm	11.3 mm	1-80.2 bar	Air	UV
2 NPS	3 NPS	1319.6 mm²	[K] 41 mm	13.7 mm	1-77 bar	Air	UV
2.5 NPS	4 NPS	2041.8 mm²	[L] 51 mm	17 mm	1-65 bar	Air	UV
3 NPS	4 NPS	2050.5 mm²	[M] 57 mm	19 mm	1-50.2 bar	Air	UV
4 NPS	6 NPS	3017.5 mm²	[N] 62 mm	20.7 mm	1-45.1 bar	Air	UV
4 NPS	6 NPS	4534.2 mm²	[P] 76 mm	25.3 mm	1-45.8 bar	Air	UV
6 NPS	8 NPS	7850 mm²	[Q] 100 mm	33.3 mm	1-37.3 bar	Air	UV
6 NPS	8 NPS	11798 mm²	[R] 123 mm	40.9 mm	1-26.3 bar	Air	UV
8 NPS	10 NPS	18496 mm²	[T] 153.5 mm	51.2 mm	1-22.4 bar	Air	UV

Cash Acme (The Trade Name of Reliance Worldwide Corporation) (CSH)

Cullman, AL 35055United States

This Company Manufactures or Assembles:

Design Name: F-30F (3/4")		NBCert #	09166
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	HV	08/21/2029	

Design Type

[Safety Relief Valve] F-30F (3/4")  
HolderDesignation:  
Capacity Tests: Sec. HV at National Board Testing Lab on March 9, 2023  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:423600 BTU/HR; (alternate medium): 0.000  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration:  
Designed by: Cash Acme (The Trade Name of Reliance Worldwide Corporation) {CSH}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	0.75 NPS	0.307 in²	0.625 in	0.156 in	30-30 psi	Steam	HV
Design Name: FWL-2F (3/4"), FWL-2 (3/4")				NBCert #	09087		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			HV		08/21/2029		
Design Type							
[Safety Relief Valve] FWL-2F (3/4"), FWL-2 (3/4") HolderDesignation: Capacity Tests: Sec. HV at National Board Testing Lab on March 9, 2023 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:6476.0 BTU/HR/PSIA; (alternate medium): 0.000 Media - Test: Steam; Certified: Saturated Water Set Pressure Definition: 40 CC Method Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Cash Acme (The Trade Name of Reliance Worldwide Corporation) {CSH}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	0.75 NPS	0.173 in²	0.47 in	0.118 in	75-150 psi	Steam	HV

## Castel s.r.l. (CAS)

Milano, 20042Italy

### This Company Manufactures or Assembles:

Design Name: 3030/44 - 3030/66				NBCert #	02394		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			03/16/2029	
Design Type							
[Safety Relief Valve] 3030/44 - 3030/66 Capacity Tests: Sec. UV at National Board Testing Lab on September 2, 2021 Certified Value: 2.380 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Bubble Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Castel s.r.l. {CAS}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.75 NPS	113 mm²	12 mm	4.2 mm	9-50 bar	Air	UV



## Centrix Control Solutions L.P. (BRB)

Edmonton, AB T6E 5X1Canada

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	07/25/2028	

### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V

2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV
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Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 06/29/2028

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 07/25/2028

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/26/2028

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series			NBCert # 18706	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		07/25/2028

## Design Type

[Safety Relief Valve] 19000 Series  
 Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/25/2028

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2

NBCert #

18144

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/26/2028

## Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 07/25/2028

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 3.256 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/23/2027

#### Design Type

[Safety Relief Valve] 1900-DM  
 Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
 Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
 Set Pressure Definition(1): Pop; (2): First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/23/2027

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E

NBCert #

19099

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/02/2028

#### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/26/2028

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/25/2028

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 3900-TM (39PV, 39MV pilots) NBCert # 01438

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/26/2028

## Design Type

[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)

Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Chalmers & Kubeck, Inc. (BRU)

New Brunswick, NJ 08901United States

**This Company Manufactures or Assembles:**

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	07/09/2025
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#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV

8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name:	19000 Series	NBCert #	18706
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/09/2025

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV

2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

### Chalmers & Kubeck, Inc. (CKB)

Beaver Falls, PA 15010United States

#### This Company Manufactures or Assembles:

Design Name: 1541, 1543, 1541-3, 1543-3		NBCert # 18032
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/11/2026
Design Type		
[Safety Valve] 1541, 1543, 1541-3, 1543-3 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V

1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1811, 1511

NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV, V

02/13/2026

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	02/19/2026	

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	04/10/2026	

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series	NBCert # 18706
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	02/18/2026
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#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/19/2026

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/18/2026

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.1279 in²	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV
Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751							
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV, V		02/18/2026		
Design Type							
[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.256 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM		NBCert # 19066
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/16/2029
Design Type		
<p>[Safety Relief Valve] 1900-DM Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

10/16/2029

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E

NBCert #

19099

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

10/16/2029

### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV

02/18/2026

### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV, V

02/18/2026

### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/19/2026

#### Design Type

[Relief Valve] 19110M & 19110H (Liquids)  
 Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 2.264 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	2900-TM (39PV & 39MV pilots)	NBCert #	01427
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/09/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900-TM (39PV & 39MV pilots)  
 Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
 Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Water	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Water	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Water	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV

1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Water	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Water	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2000 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Water	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Water	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-300 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Water	UV



## Chalmers & Kubeck, Inc. (CKI)

Aston, PA 19014United States

### This Company Manufactures or Assembles:

Design Name:	1700 & 2700	NBCert #	18100
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	V	11/14/2028	

#### Design Type

[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV

6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name: 1700 & 2700 (Restricted Lift version of Cert. # 18100) NBCert # 18111

Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 09/27/2028

#### Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	08/18/2029

### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	19000 Series	NBCert #	18706
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/23/2029

### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	09/14/2029
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#### Design Type

[Relief Valve] 19000 Series, Liquid  
 Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.673 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV

0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 09/18/2029

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/04/2029

#### Design Type

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV

1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/04/2029

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name:	1900-DM-E	NBCert #	19099
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/04/2029

#### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name:	1900E-2, 1900-30E-2 LA & DALA (Liquids)	NBCert #	18762
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/18/2029

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/13/2029

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 1982 LS, 820000LS NBCert # 18380

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

11/15/2028

**Design Type**

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Design Name: 2900-TM (39PV & 39MV pilots) NBCert # 01427

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

08/14/2030



## Design Type

[Pilot Operated Pressure Relief Valve] 2900-TM (39PV & 39MV pilots)

Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Water	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Water	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Water	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Water	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Water	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2000 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Water	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Water	UV

6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Water	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-300 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Water	UV

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV

1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV

8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid) NBCert # 18458

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## CIRCOR Aerospace, Inc. (CSC)

Nameplate Abbreviation: Circle Seal

Corona, CA 92878United States

### This Company Manufactures or Assembles:

Design Name: D-500-2M		NBCert # 10001	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/29/2026
Design Type			
[Safety Relief Valve] D-500-2M Capacity Tests: Sec. UV at Phillips Petroleum on November 16, 1966 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.359 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Designed by: CIRCOR Aerospace, Inc. {CSC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.25 NPS		0.059 in <sup>2</sup>	0.275 in	0.069 in	15-150 psi	Air	UV

Design Name: M5100-1M		NBCert # 10012	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/29/2026

**Design Type**

[Safety Relief Valve] M5100-1M  
Capacity Tests: Sec. UV at Phillips Petroleum on November 6, 1966  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.286 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: CIRCOR Aerospace, Inc. {CSC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.125 NPS	Side NPS	0.049 in <sup>2</sup>	0.25 in	0.06 in	100-1200 psi	Air	UV

Design Name:	M5100-2M & 3M	NBCert #	10023
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

04/29/2026

**Design Type**

[Safety Relief Valve] M5100-2M & 3M  
Capacity Tests: Sec. UV at Phillips Petroleum on November 16, 1966  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.667 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: CIRCOR Aerospace, Inc. {CSC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.375 NPS		0.1 in <sup>2</sup>	0.358 in	0.08 in	15-1200 psi	Air	UV

Design Name:	M5100-4M	NBCert #	10034
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

04/29/2026

**Design Type**

[Safety Relief Valve] M5100-4M  
Capacity Tests: Sec. UV at Phillips Petroleum on November 16, 1966  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.310 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: CIRCOR Aerospace, Inc. {CSC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.5 NPS		0.209 in <sup>2</sup>	0.516 in	0.1 in	15-1200 psi	Air	UV

Design Name:	M5100-6M & 8M 100 - 1200	NBCert #	10056
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

04/29/2026

Design Type

[Safety Relief Valve] M5100-6M & 8M 100 - 1200  
Capacity Tests: Sec. UV at Phillips Petroleum on November 16, 1966  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.453 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: CIRCOR Aerospace, Inc. {CSC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS		0.428 in²	0.738 in	0.25 in	100-1200 psi	Air	UV

Cleveland Valve and Gauge, Co. (CVG)Nameplate Abbreviation: Cleveland Valve & Gauge Co.

Cleveland, OH 44135United States

This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	07/13/2026	

Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in²	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in²	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in²	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in²	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in²	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in²	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in²	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in²	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in²	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in²	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in²	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in²	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV

1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1811, 1511			NBCert # 18122	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV, V		07/24/2026

Design Type				
[Safety Valve] 1811, 1511 Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.877 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}				

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V



6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV
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Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 07/01/2026

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 07/24/2026

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV

10 NPS	14 NPS	50.26 in²	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV
Design Name: 19000 SeriesNBCert # 18706							
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		07/01/2026		
Design Type							
[Safety Relief Valve] 19000 Series Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/30/2026

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/22/2026

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV
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Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/22/2026

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name:	1900E-2, 1900-30E-2	NBCert #	18166
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/22/2026

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name:	1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert #	18762
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/22/2026

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in²	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V
Design Name: 19110M & 19110H (Liquids)NBCert #19077							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			04/22/2026	
Design Type							
[Relief Valve] 19110M & 19110H (Liquids) Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.264 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1
Design Name: 3900 (39PV, 39MV pilots)NBCert #18447							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			06/01/2026	
Design Type							
[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots) Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in²	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in²	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in²	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in²	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in²	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in²	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in²	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in²	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in²	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in²	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV

1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV

8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid) NBCert # 18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/11/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV



4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Continental NH3 Products Co., Inc. (CNT)

Dallas, TX 75208United States

### This Company Manufactures or Assembles:

Design Name:	AA-402VA	NBCert #	12003
Manufacturer/Assembler	Designators	Expiration Date	

Manufacturer UV 07/12/2029

#### Design Type

[Safety Relief Valve] AA-402VA  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on March 2, 1987  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:2057.0 SCFM  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Continental NH3 Products Co., Inc. {CNT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.44 in <sup>2</sup>	0.75 in		250-250 psi	Air	UV

Design Name:	AA-402VA (265 psig)	NBCert #	12025
Manufacturer/Assembler	Designators	Expiration Date	

Manufacturer UV 07/12/2029

**Design Type**

[Safety Relief Valve] AA-402VA (265 psig)  
Capacity Tests: Sec. UV at National Board Testing Lab on May 20, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:2130.0 SCFM  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Continental NH3 Products Co., Inc. {CNT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.44 in <sup>2</sup>	0.75 in		265-265 psi	Air	UV

Design Name:	AA-417-AB	NBCert #	12036
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	01/11/2026
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**Design Type**

[Safety Relief Valve] AA-417-AB  
Capacity Tests: Sec. UV at National Board Testing Lab on October 14, 1998  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:5886.0 SCFM  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Designed by: Continental NH3 Products Co., Inc. {CNT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS		1.22 in <sup>2</sup>	1.25 in		250-250 psi	Air	UV

**Contro Valve Equipment Inc. (CBU)****Nameplate Abbreviation: Contro Valve  
Inc**

Burlington, ON L7N 3G2Canada

**This Company Manufactures or Assembles:**

Design Name:	19000 Series	NBCert #	18706
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**Manufacturer/Assembler****Designators****Expiration Date**

Assembler	UV	01/19/2029
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**Design Type**

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV

0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 1900-DM

NBCert #

19066

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

06/25/2030

#### Design Type

[Safety Relief Valve] 1900-DM

Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV

1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert # 19088

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/25/2030

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV

1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV
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Design Name: 1900-DM-E		NBCert # 19099
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/25/2030
Design Type		
<div>[Safety Relief Valve] 1900-DM-E Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1982 LS, 820000LS		NBCert # 18380
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/29/2026
Design Type		
<div>[Relief Valve] 1982 LS, 820000LS</div> <div>Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984</div> <div>Method of Establishing Relieving Capacity: Flow Capacity, K</div> <div>Certified Value: 0.758 Unitless</div> <div>Media - Test: Liquid; Certified: Liquid</div> <div>Set Pressure Definition: First Steady Stream</div> <div>Blowdown Characteristics: Fixed</div> <div>Flow Area Configuration: Nozzle/Full Lift</div> <div>Designed by: Dresser, LLC {DRJ}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Brossard, QC J4Y 2R4Canada

**This Company Manufactures or Assembles:**

Design Name:	119 Series	NBCert #	11361
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/25/2029

**Design Type**

[Safety Valve] 119 Series  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on March 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Air	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	NV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	V
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Air	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	V
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Air	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	V
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Air	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	UV

6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	V
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Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 02/04/2026

#### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/16/2029

### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	19 Series	NBCert #	11282
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/25/2029



## Design Type

[Safety Valve] 19 Series  
 Capacity Tests: Sec. UV, V at unknown lab on March 27, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.826 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Air	UV
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Steam	UV, V

Design Name: 1900, 1900-30 1900-35 LA & DALA (Liquids) NBCert # 18784

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/05/2026

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.670 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V

4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/13/2026

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV

4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series

NBCert # 18706

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/22/2029

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV

0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 01/23/2030

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2		NBCert #	18144
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	02/05/2026
Design Type			
[Safety Relief Valve] 1900D-2, 1900-30D-2 Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids)		NBCert #	18751
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	01/23/2030
Design Type			
[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.256 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM		NBCert #	19066
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	09/20/2029
Design Type			
[Safety Relief Valve] 1900-DM Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV

1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert # 19088

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/20/2029

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name:	1900-DM-E	NBCert #	19099
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/20/2029

#### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name:	1900E-2, 1900-30E-2	NBCert #	18166
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/05/2026

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name:	1900E-2, 1900-30E-2 LA & DALA (Liquids)	NBCert #	18762
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/23/2030

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 5.798 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

01/18/2029

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
 Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 2.264 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

03/05/2026

**Design Type**

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV



1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV

6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid) NBCert # 18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/08/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV

3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Design Name: 500 Series	NBCert # 11462
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/18/2029

Design Type
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[Safety Valve] 500 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on June 12, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.861 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Air	UV
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Steam	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Steam	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Air	UV

1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Steam	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Air	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Steam	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Air	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Steam	UV

## Control Devices, LLC (CDV)

Nameplate Abbreviation: CD

Fenton, MO 63026United States

### This Company Manufactures or Assembles:

Design Name: SA	NBCert # 14038
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/03/2029

#### Design Type

[Safety Relief Valve] SA  
Capacity Tests: Sec. UV at National Board Testing Lab on April 1, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.716 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Control Devices, LLC {CDV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.375 NPS		0.049 in <sup>2</sup>	0.25 in	0.088 in	50-350 psi	Air	UV

Design Name: SB	NBCert # 14061
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/20/2029

#### Design Type

[Safety Relief Valve] SB  
Capacity Tests: Sec. UV at National Board Testing Lab on July 26, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.310 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Control Devices, LLC {CDV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS		0.221 in <sup>2</sup>	0.531 in	0.267 in	25-300 psi	Air	UV

Design Name:	SCB	NBCert #	14083
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/22/2029

Design Type
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[Safety Relief Valve] SCB  
Capacity Tests: Sec. UV at National Board Testing Lab on April 14, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.260 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Control Devices, LLC {CDV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.2206 in <sup>2</sup>	0.53 in	0.254 in	25-300 psi	Air	UV

Design Name:	SP	NBCert #	14049
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/22/2030

Design Type
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[Safety Relief Valve] SP  
Capacity Tests: Sec. UV at National Board Testing Lab on February 12, 1992  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.276 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Control Devices, LLC {CDV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.25 NPS		0.0191 in <sup>2</sup>	0.156 in	0.11 in	75-250 psi	Air	UV

Design Name:	ST	NBCert #	14016
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/13/2029

Design Type
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[Safety Relief Valve] ST  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on May 12, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.759 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Control Devices, LLC {CDV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.375 NPS		0.049 in <sup>2</sup>	0.25 in	0.138 in	25-350 psi	Air	UV

Design Name: SW		NBCert # 14072
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/20/2029
Design Type		
[Safety Relief Valve] SW Capacity Tests: Sec. UV at National Board Testing Lab on September 16, 1996 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 6.920 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Control Devices, LLC {CDV}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS		0.46 in <sup>2</sup>	0.765 in	0.314 in	25-300 psi	Air	UV

Control Southern Inc. (CSM)		
Macon, GA 31217United States		

### This Company Manufactures or Assembles:

Design Name: 243/249/443/449/546/843/849/943/5046/5049/8043/8049		NBCert # 01292
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/29/2029
Design Type		
[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049 Capacity Tests: Sec. UV at unknown lab on August 8, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV

4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 253/259/453/459/853/859/953/959/5059/8053/8059 NBCert # 01304

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/29/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059

Capacity Tests: Sec. UV at unknown lab on July 31, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.627 Unitless

Media - Test: Air/Gas; Certified: Air, Gas

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Curtain Area

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/5066/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/29/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069

Capacity Tests: Sec. UV at unknown lab on July 30, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.860 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/29/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.767 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V



Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/19/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.491 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 463/469/566/863/869/963/969/5066/5069 (Liquids) NBCert # 01348

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/19/2029

### Design Type

[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids)  
Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.712 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name: 63B (.437", #7 orifice)

NBCert #

01067

Manufacturer/Assembler

Designators

Expiration Date

Assembler

UV

08/29/2029

### Design Type

[Safety Relief Valve] 63B (.437", #7 orifice)  
Capacity Tests: Sec. UV at Crosby Valve, LLC on December 3, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.370 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.15 in <sup>2</sup>	[#7] 0.437 in	0.16 in	45-374 psi	Air	UV

Design Name: 81, 81P, 83, 84

NBCert #

01089

Manufacturer/Assembler

Designators

Expiration Date

Assembler

UV

08/29/2029

### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name:	81P (Liquids)	NBCert #	01102
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/29/2029

#### Design Type

[Relief Valve] 81P (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.720 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name:	900 Series (Liquid), 7700, SNC	NBCert #	15499
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/29/2029

## Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.661 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC

NBCert #

15411

## Manufacturer/Assembler

## Designators

## Expiration Date

Assembler

UV

08/29/2029

## Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV

1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name:	H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, NBCert # 15006 HSA, HSB, HSC, HSP)						
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 07/08/2026

#### Design Type

[Safety Valve] H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, HSA, HSB, HSC, HSP)  
Capacity Tests: Sec. UV, V at unknown lab on September 1, 1939  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-500 psi	Steam	UV, V
0.75 NPS	1.5 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-500 psi	Steam	UV, V
1-1.5 NPS	2 - 3 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-3100 psi	Steam	UV, V
1-2 NPS	2.5, 3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-3100 psi	Steam	UV, V
1.5-2 NPS	3, 4, 6 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-5000 psi	Steam	UV, V
1.5 NPS	3 NPS	0.865 in <sup>2</sup>	1.05 in	0.262 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.994 in <sup>2</sup>	[H2] 1.125 in	0.281 in	15-3100 psi	Steam	UV, V
2-3 NPS	3, 4, 6 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-5000 psi	Steam	UV, V
2 NPS	4 NPS	1.431 in <sup>2</sup>	[J2] 1.35 in	0.338 in	15-3100 psi	Steam	UV, V
2.5-3 NPS	4, 6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-6000 psi	Steam	UV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-6000 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.476 in	15-3100 psi	Steam	UV, V
3 NPS	6 NPS	3.341 in <sup>2</sup>	[L2] 2.062 in	0.516 in	15-3100 psi	Steam	UV, V
3-4 NPS	6, 8 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-6000 psi	Steam	UV, V
3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.563 in	15-6000 psi	Steam	UV, V
4 NPS	6 NPS	4.341 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-3100 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.712 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.937 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q2] 3.95 in	0.988 in	15-3100 psi	Steam	UV, V
6 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-3100 psi	Steam	UV, V
6 NPS	10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.239 in	15-3100 psi	Steam	UV, V
8 NPS	10, 12 NPS	26 in <sup>2</sup>	[T] 5.75 in	1.437 in	15-500 psi	Steam	UV, V
8 NPS	12, 14 NPS	28.274 in <sup>2</sup>	6 in	1.5 in	15-2000 psi	Steam	UV, V

10 NPS	14 NPS	44.18 in <sup>2</sup>	7.5 in	1.875 in	15-500 psi	Steam	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	9 in	2.25 in	15-500 psi	Steam	UV, V
14 NPS	18 NPS	86.59 in <sup>2</sup>	10.5 in	2.625 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	95.21 in <sup>2</sup>	11.01 in	2.753 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	114.04 in <sup>2</sup>	12.05 in	3.02 in	15-500 psi	Steam	UV, V
18 NPS	24 NPS	143.14 in <sup>2</sup>	13.5 in	3.375 in	15-500 psi	Steam	UV, V
20 NPS	24 NPS	176.71 in <sup>2</sup>	15 in	3.75 in	15-500 psi	Steam	UV, V

Design Name:	HL, HSL	NBCert #	15589
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 10/04/2028

#### Design Type

[Safety Valve] HL, HSL  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on November 3, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	1.5 NPS	0.339 in <sup>2</sup>	[F] 0.657 in	0.164 in	15-725 psi	Steam	UV, V
1.25-2 NPS	1.5 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.21 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.868 in <sup>2</sup>	[H] 1.051 in	0.263 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.327 in <sup>2</sup>	[J] 1.3 in	0.325 in	15-725 psi	Steam	UV, V
2-3 NPS	3-4 NPS	2.046 in <sup>2</sup>	[K] 1.614 in	0.404 in	15-725 psi	Steam	UV, V
2.5-4 NPS	4-6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-725 psi	Steam	UV, V
3 NPS	4-6 NPS	3.955 in <sup>2</sup>	[M] 2.244 in	0.561 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	4.831 in <sup>2</sup>	[N] 2.48 in	0.62 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	7.031 in <sup>2</sup>	[P] 2.992 in	0.748 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[QQ] 3.75 in	0.937 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	12.174 in <sup>2</sup>	[Q] 3.937 in	0.984 in	15-725 psi	Steam	UV, V

Design Name:	JLT-JOS/JLT-JBS/JLT-JDS (Liquids)	NBCert #	15095
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/29/2029

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/29/2029

## Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV



6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

Design Name: Kunkle 300,600

NBCert #

36076

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/08/2026

#### Design Type

[Safety Valve] Kunkle 300,600  
Capacity Tests: Sec. UV, V at unknown lab on February 10, 1961  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	UV

2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Air	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	V
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Air	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	V
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Air	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	V
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	UV

Design Name: Kunkle 6000, 6252 Series NBCert # 36324

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 10/19/2029

#### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V

1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

## ControlWorx, LLC (WTM)

Mobile, AL 36615United States

### This Company Manufactures or Assembles:

Design Name:	243/249/443/449/546/843/849/943/5046/5049/8043/8049	NBCert #	01292
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	12/18/2025

## Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049  
 Capacity Tests: Sec. UV at unknown lab on August 8, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 81, 81P, 83, 84 NBCert # 01089

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/10/2026

## Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
 Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.816 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
 Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV

0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name:	81P (Liquids)	NBCert #	01102
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/10/2026

#### Design Type

[Relief Valve] 81P (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.720 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name:	900 Series (Liquid), 7700, SNC	NBCert #	15499
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/18/2025

#### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV

0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC

NBCert #

15411

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

12/18/2025

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids)

NBCert #

15095

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

12/18/2025

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/18/2025

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV



6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## CORNERSTONE CONTROLS (DPL)

Dayton, OH 45417United States

### This Company Manufactures or Assembles:

Design Name:	243/249/443/449/546/843/849/943/5046/5049/8043/8049	NBCert #	01292
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	10/05/2028
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### Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049

Capacity Tests: Sec. UV at unknown lab on August 8, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV

1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 253/259/453/459/853/859/953/959/5059/8053/8059 NBCert # 01304

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/05/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.627 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/5066/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/05/2028

## Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069  
 Capacity Tests: Sec. UV at unknown lab on July 30, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.860 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/05/2028

## Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.767 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V

1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/05/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.491 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 463/469/566/863/869/963/969/5066/5069 (Liquids)		NBCert #	01348
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	10/05/2028
Design Type			
[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids) Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.712 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name: 81, 81P, 83, 84		NBCert #	01089
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	10/05/2028
Design Type			
[Safety Relief Valve] 81, 81P, 83, 84 Capacity Tests: Sec. UV at unknown lab on July 8, 1965 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.816 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC} Comments: Type 81P and 84 have fixed blowdown.			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV

1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name:	81P (Liquids)	NBCert #	01102
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/06/2029

Design Type
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[Relief Valve] 81P (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.720 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name:	900 Series (Liquid), 7700, SNC	NBCert #	15499
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/05/2028

Design Type
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[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV

0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name:	900 Series, 7700, SNC	NBCert #	15411
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/05/2028

### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name:	HL, HSL	NBCert #	15589
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	V	08/16/2030

## Design Type

[Safety Valve] HL, HSL  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on November 3, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	1.5 NPS	0.339 in <sup>2</sup>	[F] 0.657 in	0.164 in	15-725 psi	Steam	UV, V
1.25-2 NPS	1.5 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.21 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.868 in <sup>2</sup>	[H] 1.051 in	0.263 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.327 in <sup>2</sup>	[J] 1.3 in	0.325 in	15-725 psi	Steam	UV, V
2-3 NPS	3-4 NPS	2.046 in <sup>2</sup>	[K] 1.614 in	0.404 in	15-725 psi	Steam	UV, V
2.5-4 NPS	4-6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-725 psi	Steam	UV, V
3 NPS	4-6 NPS	3.955 in <sup>2</sup>	[M] 2.244 in	0.561 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	4.831 in <sup>2</sup>	[N] 2.48 in	0.62 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	7.031 in <sup>2</sup>	[P] 2.992 in	0.748 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[QQ] 3.75 in	0.937 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	12.174 in <sup>2</sup>	[Q] 3.937 in	0.984 in	15-725 psi	Steam	UV, V

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

## Manufacturer/Assembler

## Designators

## Expiration Date

Assembler

UV

10/05/2028

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V



1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/05/2028

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV

3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/05/2028

### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV

3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Crosby Valve, LLC (CVM)

Mansfield, MA 02048United States

### This Company Manufactures or Assembles:

Design Name:	800	NBCert #	15466
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	NV, UV	12/06/2028	

**Design Type**

[Safety Relief Valve] 800  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on August 8, 1991  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.877 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Crosby Valve, LLC {CVM}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.75-1 NPS	1 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV
0.75-1 NPS	1 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	UV
1-2 NPS	1 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV
1-2 NPS	1 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	UV
1-2 NPS	1 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1-2 NPS	1.5, 2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5, 2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: 81, 81P, 83, 84

NBCert #

01089

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

NV, UV

10/21/2027

**Design Type**

[Safety Relief Valve] 81, 81P, 83, 84  
 Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.816 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
 Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV

1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 81P (Liquids) NBCert # 01102

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV 08/24/2028

#### Design Type

[Relief Valve] 81P (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.720 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC NBCert # 15499

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, UV 03/17/2029

#### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V

0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC NBCert # 15411

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, UV 06/07/2029

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: BP NBCert # 15501

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, UV 03/29/2029

### Design Type

[Safety Relief Valve] BP  
Capacity Tests: Sec. UV at Crosby Valve, LLC on August 24, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.841 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.0539 in <sup>2</sup>	[#4] 0.262 in	0.06 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.0929 in <sup>2</sup>	[#5] 0.344 in	0.085 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.114 in <sup>2</sup>	[#5A] 0.381 in	0.098 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.1364 in <sup>2</sup>	[#6] 0.417 in	0.112 in	50-3000 psi	Air	UV

Design Name: BP (Liquids) NBCert # 15534

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

03/29/2029

### Design Type

[Relief Valve] BP (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on September 15, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.0539 in <sup>2</sup>	[#4] 0.262 in	0.06 in	50-3000 psi	Water	UV, V
0.75-1 NPS	1 NPS	0.0929 in <sup>2</sup>	[#5] 0.344 in	0.085 in	50-3000 psi	Water	UV, V
0.75-1 NPS	1 NPS	0.114 in <sup>2</sup>	[#5A] 0.381 in	0.098 in	50-3000 psi	Water	UV, V
0.75-1 NPS	1 NPS	0.1364 in <sup>2</sup>	[#6] 0.417 in	0.112 in	50-3000 psi	Water	UV, V

Design Name: CV1B NBCert # 15398

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

NV

12/11/2025

### Design Type

[Vacuum Relief Valve] CV1B  
Capacity Tests: Sec. NV, -Class 2, -Class 3 at Anderson Greenwood Crosby on December 11, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method  
Certified Value: 1652.0 SCFM  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Start-to-Leak  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Crosby Valve, LLC {CVM}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6-8 NPS	6, 8 NPS	16.98 in <sup>2</sup>	4.65 in		-0.2 psi	Air	NV

Design Name: ES-657		NBCert #	15613
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV, -Class 1	11/30/2028
Design Type			
[Power Actuated Relief Valve] ES-657 Capacity Tests: Sec. NV, -Class 1 at Anderson Greenwood Crosby on July 26, 2022 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.612 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Heavy Flow Blowdown Characteristics: Adjustable (Other) Flow Area Configuration: Nozzle/Full Lift Designed by: Crosby Valve, LLC {CVM} Comments: Capacity at 159.5 psid (10% above set), Report TR5778 Rev. 0 saved to support files, Test report TR5778 Rev. 1 includes DOF			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	4 NPS	2.761 in <sup>2</sup>	1.875 in	0.75 in	1370-1370 psi	Water	NV, -Class 1

Design Name: HA-HAA		NBCert #	15017
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV	03/01/2029
Design Type			
[Safety Valve] HA-HAA Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3 at Crosby Valve, LLC on February 17, 1968 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Crosby Valve, LLC {CVM}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6-8 NPS	8, 8 dual NPS	12.174 in <sup>2</sup>	[Q] 3.937 in	0.984 in	15-3000 psi	Steam	NV
6-8 NPS	8,10,8 dual NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-3000 psi	Steam	NV
6 NPS	10, Dual 8 NPS	16.5 in <sup>2</sup>	[R4] 4.5835 in	1.146 in	15-3000 psi	Steam	NV
8 NPS	10 NPS	17.72 in <sup>2</sup>	[R2] 4.75 in	1.188 in	15-3000 psi	Steam	NV
8 NPS	12,10 dual, 12 dual NPS	28.27 in <sup>2</sup>	[T] 6 in	1.5 in	15-3000 psi	Steam	NV

Design Name: HB (Class 1)		NBCert #	15028
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV	03/01/2029



## Design Type

[Safety Valve] HB (Class 1)  
Capacity Tests: Sec. NV at Crosby Valve, LLC on November 25, 1968  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Crosby Valve, LLC {CVM}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2, 2-1/2 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-3000 psi	Steam	NV
1.5 NPS	2, 2-1/2 NPS	0.249 in <sup>2</sup>	0.563 in	0.14 in	15-3000 psi	Steam	NV
1.5 NPS	2 - 3 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-3000 psi	Steam	NV
1.5 NPS	2-1/2 - 4 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-3000 psi	Steam	NV
1.5 NPS	2 1/2 - 4 NPS	0.65 in <sup>2</sup>	0.909 in	0.227 in	15-3000 psi	Steam	NV
1.5-3 NPS	3, 4 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-3000 psi	Steam	NV
2-3 NPS	4, 6 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-3000 psi	Steam	NV
2.5-4 NPS	4, 6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.382 in	15-3000 psi	Steam	NV
3-6 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-3000 psi	Steam	NV
3-6 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.476 in	15-3000 psi	Steam	NV
3-6 NPS	6 NPS	2.993 in <sup>2</sup>	[M1] 1.952 in	0.488 in	15-3000 psi	Steam	NV
3-6 NPS	6 NPS	3.644 in <sup>2</sup>	[M] 2.154 in	0.538 in	15-3000 psi	Steam	NV
4-6 NPS	6, 8 NPS	4.382 in <sup>2</sup>	[N] 2.362 in	0.591 in	15-3000 psi	Steam	NV
4-6 NPS	6, 8 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.712 in	15-3000 psi	Steam	NV
6 NPS	8 NPS	7.917 in <sup>2</sup>	[P3] 3.175 in	0.794 in	15-3000 psi	Steam	NV
6 NPS	10 NPS	16.12 in <sup>2</sup>	[R] 4.531 in	1.133 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	16.474 in <sup>2</sup>	[R] 4.58 in	1.145 in	15-1500 psi	Steam	NV

Design Name: HE

NBCert # 15039

Manufacturer/Assembler

Designators

Expiration Date

Manufacturer

NV

10/24/2030

## Design Type

[Safety Valve] HE  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 15, 1970  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	0.307 in <sup>2</sup>	0.625 in	0.156 in	15-3100 psi	Steam	NV, V
1.5 NPS	2.5 NPS	0.503 in <sup>2</sup>	0.8 in	0.2 in	15-3100 psi	Steam	NV, V
1.5 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-3100 psi	Steam	NV, V
2 NPS	4 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-3100 psi	Steam	NV, V

2.5 NPS	6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.382 in	15-3100 psi	Steam	NV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-3100 psi	Steam	NV, V
3 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-3100 psi	Steam	NV, V
3 NPS	6 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.562 in	15-3100 psi	Steam	NV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	2.85 in	0.712 in	15-3100 psi	Steam	NV, V
4 NPS	6, 8 NPS	7.069 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	NV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.937 in	15-3100 psi	Steam	NV, V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-1500 psi	Steam	NV, V
8 NPS	10, 12, 14 NPS	19.369 in <sup>2</sup>	[R3] 4.966 in	1.242 in	15-3100 psi	Steam	NV, V
8 NPS	10, 12, 14 NPS	21.1 in <sup>2</sup>	[R5] 5.183 in	1.295 in	15-3100 psi	Steam	NV, V
8 NPS	14 NPS	22 in <sup>2</sup>	[R6] 5.295 in	1.324 in	15-3100 psi	Steam	NV, V
10 NPS	16 NPS	36.4 in <sup>2</sup>	[T2] 6.808 in	1.707 in	15-3100 psi	Steam	NV, V

Design Name: JB

NBCert # 15073

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

NV, UV

10/23/2027

#### Design Type

[Safety Relief Valve] JB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on August 8, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.856 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Crosby Valve, LLC {CVM}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	1-2 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.099 in	15-2900 psi	Steam	NV, UV
0.75-1.5 NPS	1-2 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.099 in	15-6000 psi	Air	NV, UV
0.75-1.5 NPS	1-2.5 NPS	0.2223 in <sup>2</sup>	[E] 0.532 in	0.133 in	15-2900 psi	Steam	NV, UV
0.75-1.5 NPS	1-2.5 NPS	0.2223 in <sup>2</sup>	[E] 0.532 in	0.133 in	15-6000 psi	Air	NV, UV
1-1.5 NPS	2 NPS	0.3484 in <sup>2</sup>	[F] 0.666 in	0.167 in	15-2900 psi	Steam	NV, UV
1-1.5 NPS	2 NPS	0.3484 in <sup>2</sup>	[F] 0.666 in	0.167 in	15-5000 psi	Air	NV, UV
1.5-2 NPS	2-3 NPS	0.57 in <sup>2</sup>	[G] 0.852 in	0.213 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2-3 NPS	0.57 in <sup>2</sup>	[G] 0.852 in	0.213 in	15-3705 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.891 in <sup>2</sup>	[H] 1.065 in	0.266 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.891 in <sup>2</sup>	[H] 1.065 in	0.266 in	15-2900 psi	Air	NV, UV
2 NPS	3 NPS	1.459 in <sup>2</sup>	[J] 1.363 in	0.34 in	15-2900 psi	Steam	NV, UV
2 NPS	3 NPS	1.459 in <sup>2</sup>	[J] 1.363 in	0.34 in	15-2900 psi	Air	NV, UV
3 NPS	4 NPS	2.087 in <sup>2</sup>	[K] 1.63 in	0.408 in	15-2900 psi	Steam	NV, UV
3 NPS	4 NPS	2.087 in <sup>2</sup>	[K] 1.63 in	0.408 in	15-2900 psi	Air	NV, UV
3 NPS	4 NPS	3.237 in <sup>2</sup>	[L] 2.03 in	0.508 in	15-1500 psi	Steam	NV, UV
3 NPS	4 NPS	3.237 in <sup>2</sup>	[L] 2.03 in	0.508 in	15-1500 psi	Air	NV, UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	0.57 in	15-1100 psi	Steam	NV, UV

4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	0.57 in	15-1100 psi	Air	NV, UV
4 NPS	6 NPS	4.924 in <sup>2</sup>	[N] 2.504 in	0.626 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	4.924 in <sup>2</sup>	[N] 2.504 in	0.626 in	15-1000 psi	Air	NV, UV
4 NPS	6 NPS	7.234 in <sup>2</sup>	[P] 3.035 in	0.759 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	7.234 in <sup>2</sup>	[P] 3.035 in	0.759 in	15-1000 psi	Air	NV, UV
6 NPS	8 NPS	12.53 in <sup>2</sup>	[Q] 3.994 in	0.999 in	15-600 psi	Steam	NV, UV
6 NPS	8 NPS	12.53 in <sup>2</sup>	[Q] 3.994 in	0.999 in	15-600 psi	Air	NV, UV
6 NPS	8-10 NPS	18.148 in <sup>2</sup>	[R] 4.807 in	1.2 in	15-500 psi	Steam	NV, UV
6 NPS	8-10 NPS	18.148 in <sup>2</sup>	[R] 4.807 in	1.2 in	15-500 psi	Air	NV, UV
8 NPS	10 NPS	29.494 in <sup>2</sup>	[T] 6.128 in	1.532 in	15-500 psi	Steam	NV, UV
8 NPS	10 NPS	29.494 in <sup>2</sup>	[T] 6.128 in	1.532 in	15-500 psi	Air	NV, UV
10-12 NPS	14 NPS	38.485 in <sup>2</sup>	7 in	1.75 in	15-600 psi	Steam	NV, UV
10-12 NPS	14 NPS	38.485 in <sup>2</sup>	7 in	1.75 in	15-600 psi	Air	NV, UV
10-12 NPS	14 NPS	47.85 in <sup>2</sup>	[V] 7.805 in	1.951 in	15-500 psi	Steam	NV, UV
10-12 NPS	14 NPS	47.85 in <sup>2</sup>	[V] 7.805 in	1.951 in	15-500 psi	Air	NV, UV
12 NPS	16 NPS	68.9 in <sup>2</sup>	[W] 9.366 in	2.341 in	15-500 psi	Steam	NV, UV
12 NPS	16 NPS	68.9 in <sup>2</sup>	[W] 9.366 in	2.341 in	15-500 psi	Air	NV, UV
12 NPS	16 NPS	72 in <sup>2</sup>	[W1] 9.575 in	2.394 in	15-400 psi	Steam	NV, UV
12 NPS	16 NPS	72 in <sup>2</sup>	[W1] 9.575 in	2.394 in	15-400 psi	Air	NV, UV
14 NPS	18 NPS	93.78 in <sup>2</sup>	[Y] 10.927 in	2.732 in	15-400 psi	Air	NV, UV
14 NPS	18 NPS	93.78 in <sup>2</sup>	[Y] 10.927 in	2.732 in	15-400 psi	Steam	NV, UV
16 NPS	18 NPS	103.15 in <sup>2</sup>	[Z] 11.46 in	2.865 in	15-400 psi	Air	NV, UV
16 NPS	18 NPS	103.15 in <sup>2</sup>	[Z] 11.46 in	2.865 in	15-400 psi	Steam	NV, UV
18-20 NPS	24 NPS	108.434 in <sup>2</sup>	11.75 in	2.938 in	15-600 psi	Air	NV, UV
18-20 NPS	24 NPS	108.434 in <sup>2</sup>	11.75 in	2.938 in	15-600 psi	Steam	NV, UV
16 NPS	18 NPS	110 in <sup>2</sup>	[Z1] 11.835 in	2.959 in	15-400 psi	Air	NV, UV
16 NPS	18 NPS	110 in <sup>2</sup>	[Z1] 11.835 in	2.959 in	15-400 psi	Steam	NV, UV
16 NPS	20-22 NPS	123.47 in <sup>2</sup>	[Z2] 12.538 in	3.135 in	15-400 psi	Air	NV, UV
16 NPS	20-22 NPS	123.47 in <sup>2</sup>	[Z2] 12.538 in	3.135 in	15-400 psi	Steam	NV, UV
18-20 NPS	24 NPS	155.04 in <sup>2</sup>	[AA] 14.05 in	3.513 in	15-400 psi	Steam	NV, UV
18-20 NPS	24 NPS	155.04 in <sup>2</sup>	[AA] 14.05 in	3.513 in	15-400 psi	Air	NV, UV
20 NPS	24 NPS	191.38 in <sup>2</sup>	[BB] 15.61 in	3.902 in	15-400 psi	Air	NV, UV
20 NPS	24 NPS	191.38 in <sup>2</sup>	[BB] 15.61 in	3.902 in	15-400 psi	Steam	NV, UV
20 NPS	24 NPS	213.82 in <sup>2</sup>	[BB2] 16.5 in	4.125 in	15-300 psi	Air	NV, UV
20 NPS	24 NPS	213.82 in <sup>2</sup>	[BB2] 16.5 in	4.125 in	15-300 psi	Steam	NV, UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV, UV	01/09/2029

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JMBL (Liquids)		NBCert #	15129
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV, UV	02/15/2028
Design Type			
[Relief Valve] JMBL (Liquids) Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on October 5, 1984 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.657 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Crosby Valve, LLC {CVM}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.0552 in <sup>2</sup>	[2] 0.265 in	0.07 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.0552 in <sup>2</sup>	[2] 0.265 in	0.07 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.0845 in <sup>2</sup>	[4] 0.328 in	0.095 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.0845 in <sup>2</sup>	[4] 0.328 in	0.095 in	15-5000 psi	Water	UV
0.5-1.5 NPS	1, 1.5 NPS	0.1244 in <sup>2</sup>	[6] 0.398 in	0.125 in	15-5000 psi	Water	NV
0.5-1.5 NPS	1, 1.5 NPS	0.1244 in <sup>2</sup>	[6] 0.398 in	0.125 in	15-5000 psi	Water	UV
0.75-1.5 NPS	1, 1.5 NPS	0.2214 in <sup>2</sup>	[8] 0.531 in	0.2 in	15-5000 psi	Water	NV
0.75-1.5 NPS	1, 1.5 NPS	0.2214 in <sup>2</sup>	[8] 0.531 in	0.2 in	15-5000 psi	Water	UV

Design Name: JMB-WR		NBCert #	15174
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV, -Class 1, -Class 2, -Class 3, UV	07/11/2026
Design Type			
[Safety Relief Valve] JMB-WR Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 10, 1981 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.563 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Crosby Valve, LLC {CVM}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	1, 1.5 NPS	0.012 in <sup>2</sup>	0.124 in	0.012 in	5-2750 psi	Water	NV
0.75-1.5 NPS	1, 1.5 NPS	0.012 in <sup>2</sup>	0.124 in	0.012 in	5-2750 psi	Water	UV
0.75-1.5 NPS	1, 1.5 NPS	0.0274 in <sup>2</sup>	0.187 in	0.015 in	5-2750 psi	Water	NV
0.75-1.5 NPS	1, 1.5 NPS	0.0274 in <sup>2</sup>	0.187 in	0.015 in	5-2750 psi	Water	UV
0.75-1.5 NPS	1, 1.5 NPS	0.0486 in <sup>2</sup>	0.249 in	0.021 in	5-2750 psi	Water	NV
0.75-1.5 NPS	1, 1.5 NPS	0.0486 in <sup>2</sup>	0.249 in	0.021 in	5-2750 psi	Water	UV
0.75-1.5 NPS	1, 1.5 NPS	0.1098 in <sup>2</sup>	0.374 in	0.04 in	5-2750 psi	Water	NV
0.75-1.5 NPS	1, 1.5 NPS	0.1098 in <sup>2</sup>	0.374 in	0.04 in	5-2750 psi	Water	UV

Design Name:	JO/HSU (Class 2 and 3)	NBCert #	15196
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, -Class 1, -Class 2, -Class 3, UV 07/11/2026

Design Type
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[Safety Relief Valve] JO/HSU (Class 2 and 3)  
Capacity Tests: Sec. NV, UV at unknown lab on October 19, 1955  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Crosby Valve, LLC {CVM}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 2.5 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.099 in	15-10000 psi	Air	NV, UV
1-1.5 NPS	2, 2.5 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.099 in	15-2900 psi	Steam	NV, UV
1-1.5 NPS	2, 2.5 NPS	0.2223 in <sup>2</sup>	[E] 0.532 in	0.133 in	15-2900 psi	Steam	NV, UV
1-1.5 NPS	2, 2.5 NPS	0.2223 in <sup>2</sup>	[E] 0.532 in	0.133 in	15-7500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.3484 in <sup>2</sup>	[F] 0.666 in	0.167 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.3484 in <sup>2</sup>	[F] 0.666 in	0.167 in	15-5000 psi	Air	NV, UV
1.5 NPS	2.5 NPS	0.57 in <sup>2</sup>	[G] 0.852 in	0.213 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.57 in <sup>2</sup>	[G] 0.852 in	0.213 in	15-3705 psi	Air	NV, UV
1.5 NPS	3 NPS	0.891 in <sup>2</sup>	[H] 1.065 in	0.266 in	15-2900 psi	Air	NV, UV
1.5 NPS	3 NPS	0.891 in <sup>2</sup>	[H] 1.065 in	0.266 in	15-2900 psi	Steam	NV, UV
2 NPS	3 NPS	1.459 in <sup>2</sup>	[J] 1.363 in	0.34 in	15-2900 psi	Air	NV, UV
2 NPS	3 NPS	1.459 in <sup>2</sup>	[J] 1.363 in	0.34 in	15-2900 psi	Steam	NV, UV
3 NPS	4 NPS	2.087 in <sup>2</sup>	[K] 1.63 in	0.408 in	15-2900 psi	Air	NV, UV
3 NPS	4 NPS	2.087 in <sup>2</sup>	[K] 1.63 in	0.408 in	15-2900 psi	Steam	NV, UV
3 NPS	4 NPS	3.237 in <sup>2</sup>	[L] 2.03 in	0.508 in	15-1500 psi	Air	NV, UV
3 NPS	4 NPS	3.237 in <sup>2</sup>	[L] 2.03 in	0.508 in	15-1500 psi	Steam	NV, UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	0.57 in	15-1100 psi	Air	NV, UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	0.57 in	15-1100 psi	Steam	NV, UV
4 NPS	6 NPS	4.924 in <sup>2</sup>	[N] 2.504 in	0.626 in	15-1000 psi	Air	NV, UV
4 NPS	6 NPS	4.924 in <sup>2</sup>	[N] 2.504 in	0.626 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	7.234 in <sup>2</sup>	[P] 3.035 in	0.759 in	15-1000 psi	Air	NV, UV
4 NPS	6 NPS	7.234 in <sup>2</sup>	[P] 3.035 in	0.759 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	12.53 in <sup>2</sup>	[Q] 3.994 in	0.999 in	15-600 psi	Air	NV, UV
6 NPS	8 NPS	12.53 in <sup>2</sup>	[Q] 3.994 in	0.999 in	15-600 psi	Steam	NV, UV
6 NPS	8 NPS	18.148 in <sup>2</sup>	[R] 4.807 in	1.2 in	15-500 psi	Air	NV, UV
6 NPS	8 NPS	18.148 in <sup>2</sup>	[R] 4.807 in	1.2 in	15-500 psi	Steam	NV, UV
8 NPS	10 NPS	29.494 in <sup>2</sup>	[T] 6.128 in	1.532 in	15-500 psi	Air	NV, UV
8 NPS	10 NPS	29.494 in <sup>2</sup>	[T] 6.128 in	1.532 in	15-500 psi	Steam	NV, UV
10 NPS	14 NPS	47.85 in <sup>2</sup>	[V] 7.805 in	1.951 in	15-500 psi	Air	NV, UV

10 NPS	14 NPS	47.85 in <sup>2</sup>	[V] 7.805 in	1.951 in	15-500 psi	Steam	NV, UV
12 NPS	14 NPS	68.9 in <sup>2</sup>	[W] 9.366 in	2.341 in	15-500 psi	Air	NV, UV
12 NPS	14 NPS	68.9 in <sup>2</sup>	[W] 9.366 in	2.341 in	15-500 psi	Steam	NV, UV
14 NPS	18 NPS	93.78 in <sup>2</sup>	[Y] 10.927 in	2.732 in	15-400 psi	Air	NV, UV
14 NPS	18 NPS	93.78 in <sup>2</sup>	[Y] 10.927 in	2.732 in	15-400 psi	Steam	NV, UV
16 NPS	18 NPS	103.15 in <sup>2</sup>	[Z] 11.46 in	2.865 in	15-400 psi	Air	NV, UV
16 NPS	18 NPS	103.15 in <sup>2</sup>	[Z] 11.46 in	2.865 in	15-400 psi	Steam	NV, UV
16 NPS	20 NPS	123.47 in <sup>2</sup>	[Z2] 12.538 in	3.135 in	15-400 psi	Air	NV, UV
16 NPS	20 NPS	123.47 in <sup>2</sup>	[Z2] 12.538 in	3.135 in	15-400 psi	Steam	NV, UV
18 NPS	24 NPS	155.04 in <sup>2</sup>	[AA] 14.05 in	3.513 in	15-400 psi	Air	NV, UV
18 NPS	24 NPS	155.04 in <sup>2</sup>	[AA] 14.05 in	3.513 in	15-400 psi	Steam	NV, UV
20 NPS	24 NPS	191.38 in <sup>2</sup>	[BB] 15.61 in	3.902 in	15-400 psi	Air	NV, UV
20 NPS	24 NPS	191.38 in <sup>2</sup>	[BB] 15.61 in	3.902 in	15-400 psi	Steam	NV, UV
20 NPS	24 NPS	213.82 in <sup>2</sup>	[BB2] 16.5 in	4.125 in	15-300 psi	Air	NV, UV
20 NPS	24 NPS	213.82 in <sup>2</sup>	[BB2] 16.5 in	4.125 in	15-300 psi	Steam	NV, UV

Design Name: JO/JB-WR (Class 1, 2, 3 Liquids)

NBCert #

15343

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

NV, UV

03/01/2029

#### Design Type

[Relief Valve] JO/JB-WR (Class 1, 2, 3 Liquids)  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on October 3, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.564 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Crosby Valve, LLC {CVM}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2, 2.5 NPS	0.114 in <sup>2</sup>	[D] 0.455 in	0.08 in	5-6000 psi	Water	NV
0.75-1.5 NPS	2, 2.5 NPS	0.205 in <sup>2</sup>	[E] 0.61 in	0.107 in	5-6000 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.316 in <sup>2</sup>	[F] 0.751 in	0.134 in	5-5000 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5 in <sup>2</sup>	[G] 0.93 in	0.171 in	5-3600 psi	Water	NV
1.5-2 NPS	3,4 NPS	0.778 in <sup>2</sup>	[H] 1.163 in	0.213 in	5-2480 psi	Water	NV
2-3 NPS	3 - 6 NPS	1.281 in <sup>2</sup>	[J] 1.494 in	0.273 in	5-2440 psi	Water	NV
3 NPS	4, 6 NPS	1.831 in <sup>2</sup>	[K] 1.782 in	0.327 in	5-1950 psi	Water	NV
3-4 NPS	4,6 NPS	2.827 in <sup>2</sup>	[L] 2.211 in	0.407 in	5-1500 psi	Water	NV
4 NPS	6 NPS	3.562 in <sup>2</sup>	[M] 2.481 in	0.457 in	5-1100 psi	Water	NV
4 NPS	6,8 NPS	4.312 in <sup>2</sup>	[N] 2.734 in	0.502 in	5-1000 psi	Water	NV
4 NPS	6,8 NPS	6.315 in <sup>2</sup>	[P] 3.306 in	0.608 in	5-1000 psi	Water	NV
6 NPS	8 NPS	10.998 in <sup>2</sup>	[Q] 4.376 in	0.8 in	5-600 psi	Water	NV
6 NPS	8-10 NPS	15.8 in <sup>2</sup>	[R] 4.811 in	0.96 in	15-600 psi	Water	NV



Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV, UV 06/29/2025

## Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV



6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

Design Name: JRAK-BS (Class 1, 2, 3 Liquids) NBCert # 15309

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV, UV	08/30/2028

#### Design Type

[Relief Valve] JRAK-BS (Class 1, 2, 3 Liquids)  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 19, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.646 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Crosby Valve, LLC {CVM}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.012 in <sup>2</sup>	0.124 in	0.008 in	5-3600 psi	Water	NV
0.5-1 NPS	1 NPS	0.012 in <sup>2</sup>	0.124 in	0.008 in	15-3600 psi	Water	UV
0.5-1 NPS	1 NPS	0.0274 in <sup>2</sup>	0.187 in	0.019 in	5-3600 psi	Water	NV
0.5-1 NPS	1 NPS	0.0274 in <sup>2</sup>	0.187 in	0.019 in	15-3600 psi	Water	UV
0.5-1 NPS	1 NPS	0.0486 in <sup>2</sup>	0.249 in	0.029 in	5-3600 psi	Water	NV
0.5-1 NPS	1 NPS	0.0486 in <sup>2</sup>	0.249 in	0.029 in	15-3600 psi	Water	UV
0.5-1 NPS	1 NPS	0.0674 in <sup>2</sup>	0.293 in	0.04 in	5-3600 psi	Water	NV
0.5-1 NPS	1 NPS	0.0674 in <sup>2</sup>	0.293 in	0.04 in	15-3600 psi	Water	UV

0.5-1 NPS	1 NPS	0.1098 in <sup>2</sup>	0.374 in	0.061 in	5-3600 psi	Water	NV
0.5-1 NPS	1 NPS	0.1098 in <sup>2</sup>	0.374 in	0.061 in	15-3600 psi	Water	UV

Design Name: JRL (Liquids)		NBCert #	15310
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV, UV	08/30/2028
Design Type			
[Relief Valve] JRL (Liquids) Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on October 3, 1984 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.145 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Crosby Valve, LLC {CVM}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.084 in <sup>2</sup>	0.328 in	0.125 in	15-2000 psi	Water	NV
0.5-1 NPS	1 NPS	0.084 in <sup>2</sup>	0.328 in	0.125 in	15-2000 psi	Water	UV

Design Name: SS-114-657		NBCert #	15602
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV, -Class 1	09/26/2026
Design Type			
[Power Actuated Relief Valve] SS-114-657			
Capacity Tests: Sec. NV, -Class 1 at Anderson Greenwood Crosby on August 31, 2020			
Method of Establishing Relieving Capacity: Flow Capacity, K			
Certified Value: 0.777 Unitless			
Media - Test: Liquid; Certified: Liquid			
Set Pressure Definition: Heavy Flow			
Blowdown Characteristics: Adjustable (Other)			
Flow Area Configuration: Curtain Area			
Designed by: Crosby Valve, LLC {CVM}			
Comments: Rated capacity calculated at 44 PSID			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4-4 NPS	4 NPS	3.356 in <sup>2</sup>	3.438 in	0.75 in	1415-1415 psi	Water	NV, -Class 1

Design Name: VR (1")		NBCert #	15488
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	NV	03/01/2029	
Design Type			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.442 in²			0.1-7 psi	Air	NV
Design Name: VR (2")			NBCert #		15578		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			NV		03/01/2029		
Design Type							
[Vacuum Relief Valve] VR (2") Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3 at Crosby Valve, LLC on January 23, 1992 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:38.300 SCFM/F(P*(P-Po)^.5 Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Cage Designed by: Crosby Valve, LLC {CVM}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.841 in²			0.1-7 psi	Air	NV
Design Name: VR (3")			NBCert #		15556		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			NV		08/15/2029		
Design Type							
[Vacuum Relief Valve] VR (3") Capacity Tests: Sec. NV at Crosby Valve, LLC on November 7, 1996 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:87.110 SCFM/F(P*(P-Po)^.5 Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Designed by: Crosby Valve, LLC {CVM}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	3 NPS	4.146 in²			0.1-7 psi	Air	NV

Curtiss Wright (Tianjin) Flow Control Co., Ltd. (FTC)							
Tianjin, 301700People's Republic of China							
This Company Manufactures or Assembles:							

Design Name: 2400			NBCert #		57451		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		05/02/2030		

**Design Type**

[Safety Relief Valve] 2400  
 Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on August 28, 2019  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.817 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75-1 NPS	0.049 in <sup>2</sup>	[B] 0.25 in	0.08 in	20-2000 psi	Air	UV
0.5-1 NPS	1-2 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.12 in	20-1410 psi	Air	UV
0.75-1 NPS	1-2 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.175 in	20-600 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.295 in	20-4000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.365 in	20-3000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.435 in	20-2500 psi	Air	UV

Design Name: 2600 &amp; 2600S

NBCert # 57057

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

06/21/2030

**Design Type**

[Safety Relief Valve] 2600 & 2600S  
 Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.858 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV

3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

09/21/2027

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV

1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids) NBCert # 57068

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/21/2027

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V

1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S

NBCert #

57237

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

09/22/2027

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV

2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids) NBCert # 57248

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/23/2027

#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800 NBCert # 57024

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/22/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV



1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800FP	NBCert # 57035
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/09/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name:	3800L, PCL, PCM pilots	NBCert #	57215
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/22/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV

3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

## Cyrus Shank Company (SHK)

Cicero, IL 60804United States

### This Company Manufactures or Assembles:

Design Name:	800, 800D, 800QR, 800QRW, 800QRWX, 800QRM	NBCert #	51163
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/14/2030

#### Design Type

[Safety Relief Valve] 800, 800D, 800QR, 800QRW, 800QRWX, 800QRM  
Capacity Tests: Sec. UV at National Board Testing Lab on June 3, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.420 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.02771 in <sup>2</sup>	0.466 in	0.12 in	50-400 psi	Air	UV

Design Name:	800OP, 800OPQR, 800D OP, 800SS OP, 800QRW OP	NBCert #	51253
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/21/2029

#### Design Type

[Safety Relief Valve] 800OP, 800OPQR, 800D OP, 800SS OP, 800QRW OP  
Capacity Tests: Sec. UV at National Board Testing Lab on March 24, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.216 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.162 in <sup>2</sup>	0.466 in	0.12 in	250-300 psi	Air	UV

Design Name: 801, 801D, 801QR, 801QRW, 801QRM		NBCert #	51152
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/21/2029
Design Type			
[Safety Relief Valve] 801, 801D, 801QR, 801QRW, 801QRM Capacity Tests: Sec. UV at National Board Testing Lab on February 28, 2002 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.730 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.0487 in <sup>2</sup>	0.466 in	0.125 in	75-400 psi	Air	UV

Design Name: 801DHC/801DHC QR		NBCert #	51208
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	06/17/2029
Design Type			
[Safety Relief Valve] 801DHC/801DHC QR Capacity Tests: Sec. UV at National Board Testing Lab on April 8, 2011 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.781 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS				75-400 psi	Air	UV

Design Name: 803		NBCert #	51129
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/14/2026
Design Type			
[Safety Relief Valve] 803 Capacity Tests: Sec. UV at National Board Testing Lab on November 30, 1999 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.978 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.1312 in <sup>2</sup>	0.466 in	0.14 in	50-400 psi	Air	UV

Design Name: 803 LQ 100 psig liquid, 803 LQ QC 100 psig liquid		NBCert #	51073
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/02/2025
Design Type			
[Relief Valve] 803 LQ 100 psig liquid, 803 LQ QC 100 psig liquid Capacity Tests: Sec. UV at National Board Testing Lab on June 19, 1998 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:25.900 GPM Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.1148 in <sup>2</sup>	0.466 in		100-100 psi	Water	UV

Design Name: 803 LQ 75 psig (liquids)		NBCert #	51039
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	03/23/2027
Design Type			
[Relief Valve] 803 LQ 75 psig (liquids) Capacity Tests: Sec. UV at National Board Testing Lab on March 23, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:20.700 GPM Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.1148 in <sup>2</sup>	0.466 in	0.14 in	75-75 psi	Water	UV

Design Name: 803LQ-50		NBCert #	51275
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	08/15/2025
Design Type			
[Relief Valve] 803LQ-50 Capacity Tests: Sec. UV at National Board Testing Lab on May 28, 2019 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:19.200 GPM Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	0.75 NPS	0.1148 in <sup>2</sup>	0.466 in	0.14 in	50-50 psi	Water	UV

Design Name:	804, 804QR Series	NBCert #	51017
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/15/2026

#### Design Type

[Safety Relief Valve] 804, 804QR Series  
Capacity Tests: Sec. UV at National Board Testing Lab on April 5, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.040 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.2821 in <sup>2</sup>	0.708 in	0.12 in	75-400 psi	Air	UV

Design Name:	804R, 804R-QR	NBCert #	51219
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	10/12/2030

#### Design Type

[Safety Relief Valve] 804R, 804R-QR  
Capacity Tests: Sec. UV at National Board Testing Lab on July 6, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.630 SCFM/PSIA  
Media - ; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS		0.708 in	0.12 in	75-400 psi	Air	UV

Design Name:	805 LQ 100 psig	NBCert #	51062
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/24/2025

#### Design Type

[Relief Valve] 805 LQ 100 psig  
Capacity Tests: Sec. UV at National Board Testing Lab on July 15, 1998  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value: 36.500 GPM  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS	0.445 in <sup>2</sup>	1.05 in	0.135 in	100-100 psi	Water	UV

Design Name:	805R, 805R-QR	NBCert #	51220
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	10/12/2030

#### Design Type

[Safety Relief Valve] 805R, 805R-QR  
Capacity Tests: Sec. UV at National Board Testing Lab on September 21, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.100 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	1.25 NPS	0.168 in <sup>2</sup>	1.05 in		75-400 psi	Air	UV

Design Name:	805-T, 805QR, 815, 815QR Series	NBCert #	51028
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/26/2027

#### Design Type

[Safety Relief Valve] 805-T, 805QR, 815, 815QR Series  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on January 27, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 4.090 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25, 1.5 NPS	0.866 in <sup>2</sup>	1.05 in		75-400 psi	Air	UV

Design Name:	812	NBCert #	51174
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/27/2027

#### Design Type

[Safety Relief Valve] 812  
Capacity Tests: Sec. UV at National Board Testing Lab on January 27, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.339 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	1 NPS	0.1312 in <sup>2</sup>	0.466 in	0.14 in	75-400 psi	Air	UV

Design Name: 813		NBCert # 51141
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/25/2029
Design Type		
[Safety Relief Valve] 813 Capacity Tests: Sec. UV at National Board Testing Lab on August 23, 2001 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.990 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	1 NPS	0.1312 in <sup>2</sup>	0.466 in	0.14 in	75-400 psi	Air	UV

Design Name: 814		NBCert # 51130
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/17/2029
Design Type		
[Safety Relief Valve] 814 Capacity Tests: Sec. UV at National Board Testing Lab on May 17, 2001 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.290 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.25 NPS	0.2821 in <sup>2</sup>	0.708 in		75-400 psi	Air	UV

Design Name: 850, 851		NBCert # 51051
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/24/2025
Design Type		
[Safety Relief Valve] 850, 851 Capacity Tests: Sec. UV at National Board Testing Lab on July 15, 1998 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 6.170 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Cyrus Shank Company {SHK}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.25 NPS	1.5, 2 NPS	0.442 in <sup>2</sup>	0.75 in	0.5 in	150-400 psi	Air	UV



Design Name:	850DR, 851DR, 850AR, 851AR	NBCert #	51231
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/13/2025

#### Design Type

[Safety Relief Valve] 850DR, 851DR, 850AR, 851AR  
Capacity Tests: Sec. UV at National Board Testing Lab on May 3, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.500 SCFM/PSIA  
Media - ; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.25 NPS	1.5, 2 NPS				75-350 psi	Air	UV

Design Name:	900, 901, 902, 903	NBCert #	51040
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/14/2030

#### Design Type

[Safety Relief Valve] 900, 901, 902, 903  
Capacity Tests: Sec. UV at National Board Testing Lab on May 28, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 15.180 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	2, 3 NPS	1.2275 in <sup>2</sup>	1.25 in		150-400 psi	Air	UV

Design Name:	CS 5602A, CS5602AQR	NBCert #	51185
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/27/2028

#### Design Type

[Safety Relief Valve] CS 5602A, CS5602AQR  
Capacity Tests: Sec. UV at National Board Testing Lab on July 22, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.320 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Cyrus Shank Company {SHK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.282 in <sup>2</sup>			75-400 psi	Air	UV

Design Name: CS 5602B, CS 5602BQR, CS 5602C, CS 5602CQR		NBCert #	51196
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/23/2028
Design Type			
[Safety Relief Valve] CS 5602B, CS 5602BQR, CS 5602C, CS 5602CQR Capacity Tests: Sec. UV at National Board Testing Lab on September 1, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.650 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	0.305 in <sup>2</sup>	0.708 in	0.12 in	75-400 psi	Air	UV

Design Name: CS 5602R		NBCert #	51264
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/21/2029
Design Type			
[Safety Relief Valve] CS 5602R Capacity Tests: Sec. UV at National Board Testing Lab on May 11, 2017 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.781 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Cyrus Shank Company {SHK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.0574 in <sup>2</sup>	0.708 in <sup>2</sup>	0.12 in	75-400 psi	Air	UV

## Dalian Duta Technology Safety System co., Ltd. (DLE)

Dalian, PC 116620People's Republic of China

### This Company Manufactures or Assembles:

Design Name: LC		NBCert #	01797
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	11/30/2028

Design Type

[Rupture Disk Device] LC  
HolderDesignation: LJ  
Capacity Tests: Sec. UD at National Board Testing Lab on August 19, 2021  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.260 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Dalian Duta Technology Safety System co., Ltd. {DLE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.488 in <sup>2</sup>			70-5000 psi		UD
1 NPS		0.762 in <sup>2</sup>			60-5000 psi		UD
1.25 NPS		1.489 in <sup>2</sup>			50-5000 psi		UD
1.5 NPS		2.463 in <sup>2</sup>			45-5000 psi		UD
10 NPS		76.288 in <sup>2</sup>			20-1500 psi		UD
12 NPS		109.856 in <sup>2</sup>			20-1000 psi		UD
14 NPS		149.526 in <sup>2</sup>			15-1000 psi		UD
16 NPS		195.3 in <sup>2</sup>			15-100 psi		UD
18 NPS		257.465 in <sup>2</sup>			10-100 psi		UD
2 NPS		3.679 in <sup>2</sup>			40-5000 psi		UD
2.5 NPS		5.961 in <sup>2</sup>			35-5000 psi		UD
20 NPS		310.301 in <sup>2</sup>			10-80 psi		UD
24 NPS		445.361 in <sup>2</sup>			10-80 psi		UD
28 NPS		598.107 in <sup>2</sup>			10-60 psi		UD
3 NPS		8.79 in <sup>2</sup>			30-5000 psi		UD
4 NPS		13.414 in <sup>2</sup>			30-4000 psi		UD
5 NPS		19.071 in <sup>2</sup>			25-3000 psi		UD
6 NPS		30.374 in <sup>2</sup>			25-2000 psi		UD
8 NPS		48.825 in <sup>2</sup>			25-1500 psi		UD

Design Name: YC NBCert # 01821

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	11/30/2028

Design Type

[Rupture Disk Device] YC  
HolderDesignation: YJ  
Capacity Tests: Sec. UD at National Board Testing Lab on August 19, 2021  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 3.600 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Dalian Duta Technology Safety System co., Ltd. {DLE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.488 in <sup>2</sup>			120-1500 psi		UD
1 NPS		0.762 in <sup>2</sup>			100-1500 psi		UD

1.25 NPS	1.489 in <sup>2</sup>	100-1500 psi	UD
1.5 NPS	2.463 in <sup>2</sup>	80-1200 psi	UD
10 NPS	76.288 in <sup>2</sup>	40-500 psi	UD
12 NPS	109.856 in <sup>2</sup>	40-400 psi	UD
2 NPS	3.679 in <sup>2</sup>	80-1200 psi	UD
2.5 NPS	5.961 in <sup>2</sup>	60-1200 psi	UD
3 NPS	8.79 in <sup>2</sup>	60-1200 psi	UD
4 NPS	13.414 in <sup>2</sup>	60-1000 psi	UD
5 NPS	19.071 in <sup>2</sup>	50-1000 psi	UD
6 NPS	30.374 in <sup>2</sup>	50-800 psi	UD
8 NPS	48.825 in <sup>2</sup>	50-600 psi	UD

## Dante Valve Company (DAN)

Bellflower, CA 90706United States

### This Company Manufactures or Assembles:

Design Name:	Kunkle 264, 265, 266 & 267	NBCert #	36267
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/10/2030

#### Design Type

[Safety Relief Valve] Kunkle 264, 265, 266 & 267  
Capacity Tests: Sec. UV at unknown lab on July 20, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.766 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-2000 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-3300 psi	Air	UV

Design Name:	Kunkle 300,600	NBCert #	36076
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	10/25/2029

#### Design Type

[Safety Valve] Kunkle 300,600  
Capacity Tests: Sec. UV, V at unknown lab on February 10, 1961  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Air	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	V
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Air	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	V
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Air	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	V
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	UV

Design Name: Kunkle 337		NBCert # 36278
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/18/2029

**Design Type**

[Safety Relief Valve] Kunkle 337  
 Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.860 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name: Kunkle 6000, 6252 Series NBCert # 36324

Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	07/24/2029
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**Design Type**

[Safety Valve] Kunkle 6000, 6252 Series  
 Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV

2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name: Kunkle 910 to 919

NBCert # 36100

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/10/2030

#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV

1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name:	Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)	NBCert #	36111
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	10/18/2029

### Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

## DECON TECHNOLOGIES (DTI)

Vadodara, Gujarat, 390010India

### This Company Manufactures or Assembles:

Design Name:	9 Series (Liquids)	NBCert #	44020
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/06/2030

### Design Type

[Relief Valve] 9 Series (Liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on July 24, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.632 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	[B] 0.236 in	0.07 in	15-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	14.5-6250 psi	Water	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.13 in	14.5-2220 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.17 in	14.5-740 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.21 in	14.5-285 psi	Water	UV

Design Name: P3, P4 (liquids) NBCert # 92012

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 06/06/2030

#### Design Type

[Relief Valve] P3, P4 (liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in <sup>2</sup>	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in <sup>2</sup>	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V

**DHB Valves Inc, (DHB)**

Nameplate Abbreviation: DHB VALVES

Montreal, QC H1A 3N5Canada

**This Company Manufactures or Assembles:**

Design Name: 2400		NBCert # 57451	
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	07/19/2028
Design Type			
[Safety Relief Valve] 2400 Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on August 28, 2019 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.817 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75-1 NPS	0.049 in <sup>2</sup>	[B] 0.25 in	0.08 in	20-2000 psi	Air	UV
0.5-1 NPS	1-2 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.12 in	20-1410 psi	Air	UV
0.75-1 NPS	1-2 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.175 in	20-600 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.295 in	20-4000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.365 in	20-3000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.435 in	20-2500 psi	Air	UV

Design Name: 2600 & 2600S		NBCert # 57057	
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	09/08/2028
Design Type			
[Safety Relief Valve] 2600 & 2600S Capacity Tests: Sec. UV at unknown lab on June 11, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV

2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/19/2028

## Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids)				NBCert # 57068			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		09/08/2028		
Design Type							
[Relief Valve] 2600L (Liquids) Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.652 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in²	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in²	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in²	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in²	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in²	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in²	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in²	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in²	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in²	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in²	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S		NBCert # 57237
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/19/2028
Design Type		
<p>[Safety Relief Valve] 2700, 2700S, 3700, 3700S Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	07/19/2028
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#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 4200 / 4400		NBCert # 57282
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/08/2028
Design Type		
[Safety Valve] 4200 / 4400 Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.872 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

Design Name: 6400/6600 (previously 2500 & 4600)		NBCert # 57046
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/19/2028
Design Type		
[Safety Valve] 6400/6600 (previously 2500 & 4600) Capacity Tests: Sec. UV, V at Ohio State University (Robinson Laboratory) on January 28, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	V
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	V
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV

1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	V
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Steam	V
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Steam	V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Steam	V
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Steam	UV
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Air	UV
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Steam	V
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Steam	V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Steam	UV
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Air	UV
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Steam	V
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Steam	UV
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Air	UV
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Steam	V
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Steam	V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Steam	UV
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Air	UV
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Steam	V
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Steam	V
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Steam	UV

**DonadonSDD Srl (DON)**

Corbetta (Mi), 20011Italy

**This Company Manufactures or Assembles:**



Design Name: KRD	NBCert # 00516
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	03/25/2027
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#### Design Type

[Rupture Disk Device] KRD  
HolderDesignation: HRA, HRP, HRF  
Capacity Tests: Sec. UD at National Board Testing Lab on September 10, 2014  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.480 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: DonadonSDD Srl {DON}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.79 in <sup>2</sup>			21-2000 psi	Water	UD
1.5 NPS		1.77 in <sup>2</sup>			7-1500 psi	Water	UD
10 NPS		78.54 in <sup>2</sup>			3-400 psi	Water	UD
12 NPS		113.1 in <sup>2</sup>			3-200 psi	Water	UD
14 NPS		153.94 in <sup>2</sup>			3-150 psi	Water	UD
16 NPS		201.06 in <sup>2</sup>			3-150 psi	Water	UD
18 NPS		254.47 in <sup>2</sup>			3-150 psi	Water	UD
2 NPS		3.14 in <sup>2</sup>			6-1500 psi	Water	UD
2.5 NPS		4.91 in <sup>2</sup>			6-900 psi	Water	UD
20 NPS		314.16 in <sup>2</sup>			3-150 psi	Water	UD
24 NPS		452.39 in <sup>2</sup>			3-50 psi	Water	UD
28 NPS		615.75 in <sup>2</sup>			3-50 psi	Water	UD
3 NPS		7.07 in <sup>2</sup>			6-900 psi	Water	UD
30 NPS		706.86 in <sup>2</sup>			3-50 psi	Water	UD
32 NPS		804.25 in <sup>2</sup>			3-30 psi	Water	UD
36 NPS		1017.88 in <sup>2</sup>			3-30 psi	Water	UD
4 NPS		12.57 in <sup>2</sup>			6-900 psi	Water	UD
5 NPS		19.63 in <sup>2</sup>			6-900 psi	Water	UD
6 NPS		28.27 in <sup>2</sup>			3-600 psi	Water	UD
8 NPS		50.27 in <sup>2</sup>			3-600 psi	Water	UD
1 in		0.394 in <sup>2</sup>		0 in	21-146 psi		UD
1.25 NPS		1.17 in <sup>2</sup>		0 in	30-2000 psi	Water	UD
1.5 in		1.154 in <sup>2</sup>		0 in	7-146 psi		UD
2 in		2.304 in <sup>2</sup>		0 in	7-146 psi		UD
2.5 in		3.845 in <sup>2</sup>		0 in	7-146 psi		UD
3 in		5.763 in <sup>2</sup>		0 in	6-117 psi		UD
4 in		10.525 in <sup>2</sup>		0 in	5-117 psi		UD
6 in		25.948 in <sup>2</sup>		0 in	5-73 psi		UD

Design Name: SCD	NBCert # 00527
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	03/25/2027

### Design Type

[Rupture Disk Device] SCD  
HolderDesignation: HIA, HIP, HIF  
Capacity Tests: Sec. UD at National Board Testing Lab on March 25, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.330 Unitless  
Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: DonadonSDD Srl {DON}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.79 in <sup>2</sup>			35-6000 psi	Air	UD
1 NPS		0.79 in <sup>2</sup>			35-6000 psi	Water	UD
1.5 NPS		1.77 in <sup>2</sup>			30-3500 psi	Air	UD
1.5 NPS		1.77 in <sup>2</sup>			30-3500 psi	Water	UD
10 NPS		78.54 in <sup>2</sup>			30-900 psi	Air	UD
10 NPS		78.54 in <sup>2</sup>			30-900 psi	Water	UD
12 NPS		113.1 in <sup>2</sup>			30-300 psi	Air	UD
12 NPS		113.1 in <sup>2</sup>			30-300 psi	Water	UD
14 NPS		153.94 in <sup>2</sup>			30-300 psi	Air	UD
14 NPS		153.94 in <sup>2</sup>			30-300 psi	Water	UD
16 NPS		201.06 in <sup>2</sup>			30-300 psi	Air	UD
16 NPS		201.06 in <sup>2</sup>			30-300 psi	Water	UD
18 NPS		254.47 in <sup>2</sup>			30-300 psi	Air	UD
18 NPS		254.47 in <sup>2</sup>			30-300 psi	Water	UD
2 NPS		3.14 in <sup>2</sup>			30-3500 psi	Air	UD
2 NPS		3.14 in <sup>2</sup>			30-3500 psi	Water	UD
2.5 NPS		4.91 in <sup>2</sup>			30-3000 psi	Air	UD
2.5 NPS		4.91 in <sup>2</sup>			30-3000 psi	Water	UD
20 NPS		314.16 in <sup>2</sup>			30-300 psi	Air	UD
20 NPS		314.16 in <sup>2</sup>			30-300 psi	Water	UD
24 NPS		452.39 in <sup>2</sup>			30-300 psi	Air	UD
24 NPS		452.39 in <sup>2</sup>			30-300 psi	Water	UD
28 NPS		615.75 in <sup>2</sup>			30-300 psi	Air	UD
28 NPS		615.75 in <sup>2</sup>			30-300 psi	Water	UD
3 NPS		7.07 in <sup>2</sup>			30-3000 psi	Air	UD
3 NPS		7.07 in <sup>2</sup>			30-3000 psi	Water	UD
30 NPS		706.86 in <sup>2</sup>			30-300 psi	Air	UD
30 NPS		706.86 in <sup>2</sup>			30-300 psi	Water	UD
32 NPS		804.25 in <sup>2</sup>			30-300 psi	Air	UD

32 NPS	804.25 in <sup>2</sup>		30-300 psi	Water	UD
36 NPS	1017.88 in <sup>2</sup>		30-300 psi	Air	UD
36 NPS	1017.88 in <sup>2</sup>		30-300 psi	Water	UD
4 NPS	12.57 in <sup>2</sup>		30-3000 psi	Air	UD
4 NPS	12.57 in <sup>2</sup>		30-3000 psi	Water	UD
5 NPS	19.63 in <sup>2</sup>		30-3000 psi	Air	UD
5 NPS	19.63 in <sup>2</sup>		30-3000 psi	Water	UD
6 NPS	28.27 in <sup>2</sup>		30-900 psi	Air	UD
6 NPS	28.27 in <sup>2</sup>		30-900 psi	Water	UD
8 NPS	50.27 in <sup>2</sup>		30-900 psi	Air	UD
8 NPS	50.27 in <sup>2</sup>		30-900 psi	Water	UD
1 in	0.594 in <sup>2</sup>	0 in	58-290 psi		UD
1.25 NPS	1.49 in <sup>2</sup>	0 in	35-6000 psi	Air	UD
1.25 NPS	1.49 in <sup>2</sup>	0 in	35-6000 psi	Water	UD
1.5 in	1.473 in <sup>2</sup>	0 in	58-290 psi		UD
2 in	2.716 in <sup>2</sup>	0 in	58-146 psi		UD
2.5 in	4.409 in <sup>2</sup>	0 in	58-146 psi		UD
3 in	6.449 in <sup>2</sup>	0 in	58-117 psi		UD
4 in	11.543 in <sup>2</sup>	0 in	43-117 psi		UD
6 in	27.377 in <sup>2</sup>	0 in	29-73 psi		UD

Design Name: SCR

NBCert # 00538

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	03/25/2027

#### Design Type

[Rupture Disk Device] SCR  
HolderDesignation: HRA, HRP, HRF  
Capacity Tests: Sec. UD at National Board Testing Lab on December 5, 2014  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.480 Unitless  
Media - Test: Air/Gas; Certified: Compressible and Incompressible (KrgI)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: DonadonSDD Srl {DON}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.79 in <sup>2</sup>			15-2000 psi	Air	UD
1.5 NPS		1.77 in <sup>2</sup>			6-1500 psi	Air	UD
10 NPS		78.54 in <sup>2</sup>			3-400 psi	Air	UD
12 NPS		113.1 in <sup>2</sup>			3-300 psi	Air	UD
14 NPS		153.94 in <sup>2</sup>			3-200 psi	Air	UD
16 NPS		201.06 in <sup>2</sup>			3-150 psi	Air	UD
18 NPS		254.47 in <sup>2</sup>			3-150 psi	Air	UD
2 NPS		3.14 in <sup>2</sup>			6-1500 psi	Air	UD
2.5 NPS		4.91 in <sup>2</sup>			6-900 psi	Air	UD

20 NPS	314.16 in <sup>2</sup>		3-150 psi	Air	UD
24 NPS	452.39 in <sup>2</sup>		3-120 psi	Air	UD
28 NPS	615.75 in <sup>2</sup>		3-45 psi	Air	UD
3 NPS	7.07 in <sup>2</sup>		6-900 psi	Air	UD
30 NPS	706.86 in <sup>2</sup>		3-45 psi	Air	UD
32 NPS	804.25 in <sup>2</sup>		3-30 psi	Air	UD
36 NPS	1017.88 in <sup>2</sup>		3-30 psi	Air	UD
4 NPS	12.57 in <sup>2</sup>		6-800 psi	Air	UD
5 NPS	19.63 in <sup>2</sup>		6-800 psi	Air	UD
6 NPS	28.27 in <sup>2</sup>		3-600 psi	Air	UD
8 NPS	50.27 in <sup>2</sup>		3-600 psi	Air	UD
1 in	0.394 in <sup>2</sup>	0 in	29-146 psi		UD
1.25 NPS	1.49 in <sup>2</sup>	0 in	16-2000 psi	Air	UD
1.5 in	1.154 in <sup>2</sup>	0 in	29-146 psi		UD
2 in	2.304 in <sup>2</sup>	0 in	14-146 psi		UD
2.5 in	3.845 in <sup>2</sup>	0 in	14-146 psi		UD
3 in	5.763 in <sup>2</sup>	0 in	7-117 psi		UD
4 in	10.525 in <sup>2</sup>	0 in	7-73 psi		UD
6 in	25.948 in <sup>2</sup>	0 in	7-73 psi		UD

## Dowco Valve Company, Inc. (DIA)

DeWitt, IA 52742United States

### This Company Manufactures or Assembles:

Design Name:	2600 & 2600S	NBCert #	57057
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	07/17/2030	
Design Type			
[Safety Relief Valve] 2600 & 2600S			
Capacity Tests: Sec. UV at unknown lab on June 11, 1972			
Method of Establishing Relieving Capacity: Flow Capacity, K			
Certified Value: 0.858 Unitless			
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam			
Set Pressure Definition: Pop			
Blowdown Characteristics: Adjustable (Single Ring)			
Flow Area Configuration: Nozzle/Full Lift			
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV

1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)	NBCert # 57260
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/14/2030
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#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV
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Design Name: 2600L (Liquids)			NBCert # 57068				
Manufacturer/Assembler			Designators		Expiration Date		

Assembler UV 07/17/2030

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S			NBCert # 57237				
Manufacturer/Assembler			Designators		Expiration Date		

Assembler UV 07/17/2030

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/17/2030

#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV



## Dowco Valve Company, Inc. (DWC)

Nameplate Abbreviation: Dowco

Hastings, MN 55033United States

### This Company Manufactures or Assembles:

Design Name:	119 Series	NBCert #	11361
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	11/21/2028	

#### Design Type

[Safety Valve] 119 Series  
Capacity Tests: Sec. UV, V at National Board Testing Lab on March 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Air	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	NV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	V
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Air	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	V
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Air	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	V
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Air	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	UV

6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	V
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Design Name:	19 Series	NBCert #	11282
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV, V 11/08/2028

#### Design Type

[Safety Valve] 19 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 27, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.826 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Air	UV
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Steam	UV, V

Design Name:	2600 & 2600S	NBCert #	57057
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 11/21/2028

#### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV

1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)	NBCert # 57260
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	11/08/2028
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#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV
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Design Name: 2600L (Liquids)		NBCert # 57068
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/09/2029
Design Type		
<div>[Relief Valve] 2600L (Liquids) Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.652 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S		NBCert # 57237
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/08/2028
Design Type		
<div>[Safety Relief Valve] 2700, 2700S, 3700, 3700S</div> <div>Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994</div> <div>Method of Establishing Relieving Capacity: Flow Capacity, K</div> <div>Certified Value: 0.878 Unitless</div> <div>Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam</div> <div>Set Pressure Definition: Pop</div> <div>Blowdown Characteristics: Fixed</div> <div>Flow Area Configuration: Nozzle/Full Lift</div> <div>Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	4200 / 4400	NBCert #	57282
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	11/21/2028
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#### Design Type

[Safety Valve] 4200 / 4400  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.872 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V

6 NPS8 NPS11.389 in<sup>2</sup>[Q] 3.808 in0.952 in15-1480 psiSteamUV, V

Design Name:500 Series (Liquids)NBCert #11473

Manufacturer/AssemblerDesignatorsExpiration Date

AssemblerUV11/08/2028

Design Type

[Safety Relief Valve] 500 Series (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on February 25, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.689 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-1000 psi	Water	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-1000 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-1000 psi	Water	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-1000 psi	Water	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-1000 psi	Water	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-1000 psi	Water	UV

DRESSER AL RUSHAID VALVE & INSTRUMENT CO., LTD (DAR)Nameplate Abbreviation: DARVICO

Jubail Industrial City, 31961Saudi Arabia

This Company Manufactures or Assembles:

Design Name:1900, 1900-30 1900-35 LA & DALA (Liquids)NBCert #18784

Manufacturer/AssemblerDesignatorsExpiration Date

ManufacturerUV03/13/2030

Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V

1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

03/12/2030

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV



3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series	NBCert # 18706
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/12/2030

### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV

0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	03/12/2030
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#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV

1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2

NBCert # 18144

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

03/12/2030

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900-DM

NBCert # 19066

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

02/27/2030

#### Design Type

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV

3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D NBCert # 19088

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/18/2030

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E NBCert # 19099

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/27/2030

### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

03/12/2030

### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

03/12/2030

### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 2900 (39PV & 39MV pilots)	NBCert # 18863
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	02/25/2026
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#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV

8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots)

NBCert #

18447

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

03/12/2030

### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV

2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler

Designators

Expiration Date

Manufacturer

UV

03/13/2030



## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.743 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV

8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Dresser Italia SRL (GOI)
Nameplate Abbreviation: DILN

Casavatore(Naples), 80020Italy

This Company Manufactures or Assembles:

Design Name:
1700 & 2700 (Restricted Lift version of Cert. # 18100)
NBCert #
18111

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	10/04/2025

Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V

6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name: 1811, 1511 NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 06/15/2029

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/16/2027

### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/20/2029

### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/16/2027

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM-D NBCert # 19088

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/23/2027

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name:	1900-DM-E	NBCert #	19099
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/05/2028

#### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name:	1900E-2, 1900-30E-2 LA & DALA (Liquids)	NBCert #	18762
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/16/2027

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/20/2029

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
 Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 2.264 GPM/SQ. RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 2900 (39PV & 39MV pilots - Liquid) NBCert # 18874

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/09/2027

**Design Type**

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)  
 Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.670 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name:	3900 (39PV, 39MV pilots, liquid)	NBCert #	18458
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	12/09/2027
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV



6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Dresser Machinery (Suzhou) Co., Ltd. (DMS)

Suzhou, Jiangsu, 215021 People's Republic of China

### This Company Manufactures or Assembles:

Design Name: 13900 TRH		NBCert # 18469
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/26/2030
Design Type		
[Pilot Operated Pressure Relief Valve] 13900 TRH Capacity Tests: Sec. UV at Dresser, Inc. on June 13, 1969 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.877 Unitless; Certification Provisions: Exceeds Lab Limits (Prev. CC 2397) Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
16 NPS	18 NPS	114 in <sup>2</sup>	12.05 in	3.81 in	50-300 psi	Steam	UV
18 NPS	22 NPS	143.1 in <sup>2</sup>	13.5 in	4.07 in	50-300 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	15 in	4.53 in	50-300 psi	Steam	UV

Design Name: 1541, 1543, 1541-3, 1543-3		NBCert # 18032
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	09/09/2025
Design Type		
[Safety Valve] 1541, 1543, 1541-3, 1543-3 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1700 & 2700	NBCert # 18100
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	06/14/2029

### Design Type

[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV

1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name: 1700 & 2700 (4" #7 & Ovrszd Q)

NBCert #

18087

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV, V

07/23/2027

#### Design Type

[Safety Valve] 1700 & 2700 (4" #7 & Ovrszd Q)  
Capacity Tests: Sec. UV, V at Dresser, Inc. on January 9, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.785 Unitless; Certification Provisions: Exceeds Lab Limits (Prev. CC 2397)  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	8 NPS	11.05 in <sup>2</sup>	[#7] 3.75 in	0.938 in	15-1800 psi	Steam	V
4 NPS	8 NPS	11.05 in <sup>2</sup>	[#7] 3.75 in	0.938 in	15-1800 psi	Steam	UV
4 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	25-2000 psi	Steam	V
4 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	25-1000 psi	Steam	UV

Design Name: 1700 & 2700 (4" #7 & Ovrstd Q) (Restricted Lift version of Cert. #18087)		NBCert #	18098
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV, V	07/23/2027
Design Type			
[Safety Valve] 1700 & 2700 (4" #7 & Ovrstd Q) (Restricted Lift version of Cert. #18087) Capacity Tests: Sec. UV, V at Dresser, Inc. on January 9, 2004 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.785 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945) Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Restricted Lift Designed by: Dresser, LLC {DRJ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	8 NPS	11.05 in <sup>2</sup>	[7] 3.75 in	0.281 in	100-900 psi	Steam	V
4 NPS	8 NPS	11.05 in <sup>2</sup>	[7] 3.75 in	0.281 in	100-900 psi	Steam	UV
4 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.296 in	100-2000 psi	Steam	V
4 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.296 in	100-1000 psi	Steam	UV

Design Name: 1700 & 2700 (Restricted Lift version of Cert. # 18100)		NBCert #	18111
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV, V	03/15/2027
Design Type			
[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100) Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945) Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Restricted Lift Designed by: Dresser, LLC {DRJ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V

3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name: 1811, 1511

NBCert #

18122

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV, V

06/15/2029

#### Design Type

[Safety Valve] 1811, 1511

Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.877 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV

4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 07/11/2029

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 06/15/2029

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV

10 NPS	14 NPS	50.26 in²	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV
Design Name: 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)NBCert # 18223							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			11/18/2026	
Design Type							
[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201) Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945) Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Restricted Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in²	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in²	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in²	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in²	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in²	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in²	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in²	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in²	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in²	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in²	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in²	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in²	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in²	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in²	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in²	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in²	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in²	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in²	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in²	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in²	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in²	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in²	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in²	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in²	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in²	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in²	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV



8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV

Design Name: 1900/P, 1900-30/P			NBCert # 18290	
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		V		08/25/2028

#### Design Type

[Safety Relief Valve] 1900/P, 1900-30/P  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.851 Unitless; Certification Provisions: Organic Fluid Vaporizers (Part PVG)  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4460 psi	Steam	NV, -Class 2, -Class 3, UV, V
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6000 psi	Air	UV
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3705 psi	Air	UV
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3600 psi	Steam	NV, -Class 2, -Class 3, UV, V
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3600 psi	Steam	NV
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3600 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Steam	V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2735 psi	Steam	NV, -Class 2, -Class 3, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2700 psi	Steam	NV, -Class 2, -Class 3, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Steam	V
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2160 psi	Steam	NV, -Class 2, -Class 3, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3000 psi	Steam	V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, -Class 2, -Class 3, UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Air	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Steam	NV, -Class 2, -Class 3, UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, -Class 2, -Class 3, UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, -Class 2, -Class 3, UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, -Class 2, -Class 3, UV, V
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-500 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-500 psi	Steam	NV, -Class 2, -Class 3, UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-300 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-300 psi	Steam	NV, -Class 2, -Class 3, UV, V

Design Name: 19000 Series

NBCert # 18706

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

06/15/2029

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV

1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 06/15/2029

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D/P, 1900-30D/P	NBCert #	18256
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	08/25/2028

#### Design Type

[Safety Relief Valve] 1900D/P, 1900-30D/P  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.610 PPH/PSIA; (alternate medium): 1.997 SCFM/PSIA; Certification Provisions: Organic Fluid Vaporizers (Part PVG)  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4460 psi	Steam	NV, -Class 2, -Class 3, UV, V
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6000 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/15/2029

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	06/15/2029

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in²	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V
Design Name:		1900-DM		NBCert #	19066		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		08/30/2027		
Design Type							
[Safety Relief Valve] 1900-DM Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV

8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name:	1900-DM-D	NBCert #	19088
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/30/2027

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name:	1900-DM-E	NBCert #	19099
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/18/2028

#### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name:	1900E/P, 1900-30E/P	NBCert #	18278
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 08/25/2028

### Design Type

[Safety Relief Valve] 1900E/P, 1900-30E/P  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 9.980 PPH/PSIA; (alternate medium): 3.552 SCFM/PSIA; Certification Provisions: Organic Fluid Vaporizers (Part PVG)  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4460 psi	Steam	NV, -Class 2, -Class 3, UV, V
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6000 psi	Air	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/15/2029

### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	06/15/2029

### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/25/2028

#### Design Type

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	1982	NBCert #	18379
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/09/2025

#### Design Type

[Safety Relief Valve] 1982  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab (Picaway) on May 6, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Air	NV, UV
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Steam	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Air	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Steam	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Air	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Air	NV, UV



Design Name:	1982 LS, 820000LS	NBCert #	18380
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/26/2030

### Design Type

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Design Name:	2900 (39PV & 39MV pilots - Liquid)	NBCert #	18874
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	11/18/2026

### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)  
Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V

3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name: 2900 (39PV & 39MV pilots) NBCert # 18863

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 11/18/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 2900 POSRV (39 PV, 39 MV Pilots) NBCert # 18964

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	V	11/18/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 POSRV (39 PV, 39 MV Pilots)  
Capacity Tests: Sec. V at Dresser, Inc. on November 2, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.851 Unitless; (alternate medium): 0.691 Unitless; Certification Provisions: Economizer Service (Prev. CC 2446)  
Media - Test: Liquid, Steam; Certified: Steam and Water  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	50-5800 psi	Steam	V
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	50-5800 psi	Water	V
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	50-5800 psi	Steam	V
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	50-5800 psi	Water	V
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	50-5800 psi	Steam	V
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	50-5800 psi	Water	V
1.5-2 NPS	3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	50-5800 psi	Steam	V
1.5-2 NPS	3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	50-5800 psi	Water	V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	45-3750 psi	Steam	V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	45-3750 psi	Water	V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	50-5800 psi	Steam	V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	50-5800 psi	Water	V
3 NPS	4, 6 NPS	2.136 in <sup>2</sup>	[K] 1.649 in	0.446 in	55-5800 psi	Steam	V

3 NPS	4, 6 NPS	2.136 in <sup>2</sup>	[K] 1.649 in	0.446 in	55-5800 psi	Water	V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	60-6250 psi	Steam	V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	60-6250 psi	Water	V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	65-2250 psi	Steam	V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	65-2250 psi	Water	V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	40-2250 psi	Steam	V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	40-2250 psi	Water	V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	75-2250 psi	Steam	V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	75-2250 psi	Water	V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	85-1500 psi	Steam	V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	85-1500 psi	Water	V
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	40-1500 psi	Steam	V
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	40-1500 psi	Water	V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	40-905 psi	Steam	V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	40-905 psi	Water	V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	40-905 psi	Steam	V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	40-905 psi	Water	V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	40-675 psi	Steam	V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	40-675 psi	Water	V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	40-535 psi	Steam	V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	40-535 psi	Water	V

Design Name:	3900 (39PV, 39MV pilots)	NBCert #	18447
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/13/2027

Design Type
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[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV

1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV

8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid) NBCert # 18458

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 05/11/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV

3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Design Name: 3900-TM (39PV, 39MV pilots)

NBCert #

01438

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

02/24/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)

Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV

1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV



6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Dresser Utility Solutions (DRS)

Nameplate Abbreviation: DRS

Houston, TX 77041United States

### This Company Manufactures or Assembles:

Design Name: F84, F85		NBCert #	28066
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	06/05/2029
Design Type			
<p>[Safety Relief Valve] F84, F85 Capacity Tests: Sec. UV at National Board Testing Lab on January 18, 1996 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Flow-Safe, Inc. {FLW}</p>			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.75 NPS	.5 - .75 NPS	0.003 in <sup>2</sup>	[-1] 0.062 in	0.06 in	15-15000 psi	Air	UV
0.25-0.75 NPS	.5, .75 NPS	0.015 in <sup>2</sup>	[-2] 0.138 in	0.075 in	15-15000 psi	Air	UV
0.5-0.75 NPS	.5, .75 NPS	0.034 in <sup>2</sup>	[-3] 0.209 in	0.113 in	15-890 psi	Air	UV
0.5-2 NPS	.5 - 1 NPS	0.065 in <sup>2</sup>	[-4] 0.289 in	0.152 in	15-9612 psi	Air	UV
0.5-1 NPS	1 NPS	0.149 in <sup>2</sup>	[-6] 0.436 in	0.211 in	15-6100 psi	Air	UV
0.75-1 NPS	1 NPS	0.261 in <sup>2</sup>	[-8] 0.577 in	0.262 in	15-4292 psi	Air	UV
1.5 NPS	2 NPS	0.405 in <sup>2</sup>	[F] 0.718 in	0.328 in	15-5000 psi	Air	UV

1.5 NPS	2 NPS	0.664 in²	[G] 0.919 in	0.411 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	1.036 in²	[H] 1.149 in	0.493 in	15-2750 psi	Air	UV
2 NPS	3 NPS	1.689 in²	[J] 1.467 in	0.631 in	15-2700 psi	Air	UV

Dresser, LLC (DDT)

Nameplate Abbreviation: DLCT

Deer Park, TX 77536United States

This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032				
Manufacturer/Assembler	Designators	Expiration Date					
Manufacturer	UV, V	01/14/2026					
Design Type							
[Safety Valve] 1541, 1543, 1541-3, 1543-3 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in²	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in²	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in²	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in²	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in²	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in²	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in²	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in²	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in²	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in²	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in²	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in²	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in²	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in²	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in²	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in²	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV

2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1700 & 2700	NBCert #	18100
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 03/17/2026

Design Type
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[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V

8-10 NPS	10,12 NPS	28.3 in²	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V
Design Name: 1700 & 2700 (Restricted Lift version of Cert. # 18100) NBCert # 18111							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV, V			08/11/2028	
Design Type							
[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100) Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945) Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Restricted Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in²	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in²	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in²	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in²	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in²	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in²	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in²	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in²	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in²	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in²	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in²	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in²	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in²	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in²	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in²	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in²	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in²	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in²	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in²	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in²	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in²	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in²	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in²	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in²	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in²	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	03/02/2026

### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	01/13/2026

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/14/2026

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 1900/P, 1900-30/P			NBCert # 18290	
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		V		02/14/2029

## Design Type

[Safety Relief Valve] 1900/P, 1900-30/P  
 Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at Dresser, Inc. on October 11, 1954  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.851 Unitless; Certification Provisions: Organic Fluid Vaporizers (Part PVG)  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4460 psi	Steam	NV, -Class 2, -Class 3, UV, V
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6000 psi	Air	UV
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3705 psi	Air	UV
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3600 psi	Steam	NV, -Class 2, -Class 3, UV, V
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3600 psi	Steam	NV
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3600 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Steam	V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2735 psi	Steam	NV, -Class 2, -Class 3, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2700 psi	Steam	NV, -Class 2, -Class 3, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Steam	V
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2160 psi	Steam	NV, -Class 2, -Class 3, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3000 psi	Steam	V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, -Class 2, -Class 3, UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Steam	NV, -Class 2, -Class 3, UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, -Class 2, -Class 3, UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, -Class 2, -Class 3, UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, -Class 2, -Class 3, UV, V
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-500 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-500 psi	Steam	NV, -Class 2, -Class 3, UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-300 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-300 psi	Steam	NV, -Class 2, -Class 3, UV, V



Design Name: 19000 Series	NBCert # 18706
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/14/2026

### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/15/2026

### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D/P, 1900-30D/P	NBCert #	18256
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	10/27/2028

### Design Type

[Safety Relief Valve] 1900D/P, 1900-30D/P  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.610 PPH/PSIA; (alternate medium): 1.997 SCFM/PSIA; Certification Provisions: Organic Fluid Vaporizers (Part PVG)  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4460 psi	Steam	NV, -Class 2, -Class 3, UV, V

1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6000 psi	Air	UV
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Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/14/2026

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 03/03/2026

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name:	1900-DM	NBCert #	19066
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 06/16/2027

#### Design Type

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D		NBCert # 19088
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/16/2027

### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E NBCert # 19099

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/16/2027

### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E/P, 1900-30E/P NBCert # 18278

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	10/27/2028

### Design Type

[Safety Relief Valve] 1900E/P, 1900-30E/P  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 9.980 PPH/PSIA; (alternate medium): 3.552 SCFM/PSIA; Certification Provisions: Organic Fluid Vaporizers (Part PVG)  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4460 psi	Steam	NV, -Class 2, -Class 3, UV, V
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6000 psi	Air	UV

Design Name: 1900E-2, 1900-30E-2		NBCert #	18166
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	01/14/2026
Design Type			
[Safety Relief Valve] 1900E-2, 1900-30E-2 Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids)		NBCert #	18762
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV, V	03/17/2026
Design Type			
[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.798 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids)		NBCert #	19077
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/18/2025
Design Type			
[Relief Valve] 19110M & 19110H (Liquids) Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.264 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV

0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	1982	NBCert #	18379
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/09/2026

#### Design Type

[Safety Relief Valve] 1982  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab (Picaway) on May 6, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Air	NV, UV
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Steam	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Air	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Steam	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Air	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Air	NV, UV

Design Name:	1982 LS, 820000LS	NBCert #	18380
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/17/2026

#### Design Type

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV

1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Design Name: 2900 (39PV & 39MV pilots - Liquid) NBCert # 18874

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	02/11/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)  
Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name: 2900 (39PV & 39MV pilots) NBCert # 18863

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/14/2026



## Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
 Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV

12 NPS      16 NPS      78.996 in<sup>2</sup>      [W] 10.029 in      2.523 in      15-300 psi      Steam      UV

Design Name:      2900-TM (39PV & 39MV pilots)      NBCert #      01427

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/11/2028
Design Type		

[Pilot Operated Pressure Relief Valve] 2900-TM (39PV & 39MV pilots)  
 Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
 Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Water	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Water	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Water	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Water	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Water	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2000 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Water	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Water	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-300 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Water	UV

Design Name:	3900 (39PV, 39MV pilots)	NBCert #	18447
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/14/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV

1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV

6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid) NBCert # 18458

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/13/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV

2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Design Name: 3900-TM (39PV, 39MV pilots) NBCert # 01438

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/11/2028

### Design Type

[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV

1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV

6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Dresser, LLC. (DPT)

Pasadena, TX 77507United States

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
Manufacturer/Assembler	Designators	Expiration Date	

Manufacturer	UV, V	08/28/2030
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### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V



0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1700 & 2700 (Restricted Lift version of Cert. # 18100) NBCert # 18111

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 08/29/2030

#### Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V

2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV, V	12/19/2029
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#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V

8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35 NBCert # 18201

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/28/2030

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV

6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201) NBCert # 18223

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/18/2030

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV

Design Name: 1900/P, 1900-30/P

NBCert #

18290

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

V

08/28/2030

#### Design Type

[Safety Relief Valve] 1900/P, 1900-30/P  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.851 Unitless; Certification Provisions: Organic Fluid Vaporizers (Part PVG)  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4460 psi	Steam	NV, -Class 2, -Class 3, UV, V
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6000 psi	Air	UV
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3705 psi	Air	UV
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3600 psi	Steam	NV, -Class 2, -Class 3, UV, V
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3600 psi	Steam	NV
1.5-2 NPS	2.5-3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-3600 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Steam	V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2735 psi	Steam	NV, -Class 2, -Class 3, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2700 psi	Steam	NV, -Class 2, -Class 3, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	UV

2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Steam	V
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2160 psi	Steam	NV, -Class 2, -Class 3, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3000 psi	Steam	V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, -Class 2, -Class 3, UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Steam	NV, -Class 2, -Class 3, UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, -Class 2, -Class 3, UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, -Class 2, -Class 3, UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, -Class 2, -Class 3, UV, V
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-500 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-500 psi	Steam	NV, -Class 2, -Class 3, UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-300 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-300 psi	Steam	NV, -Class 2, -Class 3, UV, V

Design Name: 19000 Series, Liquid

NBCert #

18717

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/19/2029

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV

0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D/P, 1900-30D/P	NBCert #	18256
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 08/29/2030

#### Design Type

[Safety Relief Valve] 1900D/P, 1900-30D/P  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.610 PPH/PSIA; (alternate medium): 1.997 SCFM/PSIA; Certification Provisions: Organic Fluid Vaporizers (Part PVG)  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4460 psi	Steam	NV, -Class 2, -Class 3, UV, V
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6000 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/27/2030

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 12/19/2029



**Design Type**

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 3.256 GPM/SQ. RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM

NBCert # 19066

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

12/19/2029

**Design Type**

[Safety Relief Valve] 1900-DM  
 Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
 Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
 Set Pressure Definition(1): Pop; (2): First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV



6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name:	1900-DM-D	NBCert #	19088
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/13/2030

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name:	1900-DM-E	NBCert #	19099
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/13/2030

#### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name:	1900-DM-RL, 1900-30DM-RL (Restricted Lift Version of Cert 19066)	NBCert #	19101
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	06/20/2030
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#### Design Type

[Safety Relief Valve] 1900-DM-RL, 1900-30DM-RL (Restricted Lift Version of Cert 19066)

HolderDesignation:

Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Restricted Lift

Designed by: Dresser, LLC. {DPT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.119 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.119 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.152 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.152 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.182 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.182 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.226 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.226 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.254 in	15-1600 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.254 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.279 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.279 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.338 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.338 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.445 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.445 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.535 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.535 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	0.682 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	0.682 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.728 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.728 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.879 in	15-300 psi	Air	UV

10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.879 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	1.103 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	1.103 in	15-300 psi	Water	UV

Design Name: 1900E/P, 1900-30E/P NBCert # 18278

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 08/27/2030

#### Design Type

[Safety Relief Valve] 1900E/P, 1900-30E/P  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV, V at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 9.980 PPH/PSIA; (alternate medium): 3.552 SCFM/PSIA; Certification Provisions: Organic Fluid Vaporizers (Part PVG)  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4460 psi	Steam	NV, -Class 2, -Class 3, UV, V
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6000 psi	Air	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/27/2030

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 12/19/2029

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/18/2030

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 1982 NBCert # 18379

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

08/28/2030

**Design Type**

[Safety Relief Valve] 1982  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab (Picaway) on May 6, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Air	NV, UV
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Steam	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Air	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Steam	NV, UV

1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Air	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Air	NV, UV

Design Name: 1982 LS, 820000LS NBCert # 18380

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/13/2030

#### Design Type

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Design Name: 2900 (39PV & 39MV pilots - Liquid) NBCert # 18874

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/18/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)  
Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name:	2900 (39PV & 39MV pilots)	NBCert #	18863
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	01/18/2030
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#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV

2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 2900 POSRV (39 PV, 39 MV Pilots) NBCert # 18964

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer V 08/29/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 POSRV (39 PV, 39 MV Pilots)  
Capacity Tests: Sec. V at Dresser, Inc. on November 2, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.851 Unitless; (alternate medium): 0.691 Unitless; Certification Provisions: Economizer Service (Prev. CC 2446)  
Media - Test: Liquid, Steam; Certified: Steam and Water  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	50-5800 psi	Steam	V
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	50-5800 psi	Water	V
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	50-5800 psi	Steam	V
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	50-5800 psi	Water	V
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	50-5800 psi	Steam	V

1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	50-5800 psi	Water	V
1.5-2 NPS	3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	50-5800 psi	Steam	V
1.5-2 NPS	3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	50-5800 psi	Water	V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	45-3750 psi	Steam	V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	45-3750 psi	Water	V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	50-5800 psi	Steam	V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	50-5800 psi	Water	V
3 NPS	4, 6 NPS	2.136 in <sup>2</sup>	[K] 1.649 in	0.446 in	55-5800 psi	Steam	V
3 NPS	4, 6 NPS	2.136 in <sup>2</sup>	[K] 1.649 in	0.446 in	55-5800 psi	Water	V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	60-6250 psi	Steam	V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	60-6250 psi	Water	V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	65-2250 psi	Steam	V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	65-2250 psi	Water	V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	40-2250 psi	Steam	V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	40-2250 psi	Water	V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	75-2250 psi	Steam	V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	75-2250 psi	Water	V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	85-1500 psi	Steam	V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	85-1500 psi	Water	V
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	40-1500 psi	Steam	V
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	40-1500 psi	Water	V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	40-905 psi	Steam	V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	40-905 psi	Water	V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	40-905 psi	Steam	V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	40-905 psi	Water	V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	40-675 psi	Steam	V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	40-675 psi	Water	V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	40-535 psi	Steam	V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	40-535 psi	Water	V

Design Name:	3900 (39PV, 39MV pilots)	NBCert #	18447
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	01/18/2030
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV

4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid) NBCert # 18458

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/18/2030

### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV

1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Design Name:	3900-TM (39PV, 39MV pilots)	NBCert #	01438
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/29/2030

### Design Type

[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV

3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Elfab Limited (ELF)

Nameplate Abbreviation: ELFAB

North Shields, Tyne and Wear, NE29 8SDUnited Kingdom

### This Company Manufactures or Assembles:

Design Name: Double DSC-OPR

NBCert # 88028

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	05/18/2027

## Design Type

[Rupture Disk Device] Double DSC-OPR  
 HolderDesignation: Double HLD-REV  
 Capacity Tests: Sec. UD at Elfab Limited on March 17, 2021  
 Certified Value: 2.380 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration:  
 Designed by: Elfab Limited {ELF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.766 in <sup>2</sup>			50-1523 psi		UD
1.5 NPS		1.63 in <sup>2</sup>			27-1523 psi		UD
10 NPS		65.248 in <sup>2</sup>			5-991 psi		UD
12 NPS		95.006 in <sup>2</sup>			5-878 psi		UD
14 NPS		125.982 in <sup>2</sup>			5-765 psi		UD
16 NPS		171.545 in <sup>2</sup>			4-652 psi		UD
18 NPS		213.795 in <sup>2</sup>			4-539 psi		UD
2 NPS		2.789 in <sup>2</sup>			14-1523 psi		UD
2.5 NPS		4.119 in <sup>2</sup>			10-1305 psi		UD
20 NPS		259.735 in <sup>2</sup>			4-426 psi		UD
24 NPS		372.075 in <sup>2</sup>			4-200 psi		UD
26 NPS		424.74 in <sup>2</sup>			4-191 psi		UD
28 NPS		492.6 in <sup>2</sup>			4-182 psi		UD
3 NPS		6.722 in <sup>2</sup>			7-1088 psi		UD
30 NPS		565.49 in <sup>2</sup>			4-173 psi		UD
32 NPS		643.3 in <sup>2</sup>			4-163 psi		UD
34 NPS		726.34 in <sup>2</sup>			4-154 psi		UD
36 NPS		814.3 in <sup>2</sup>			4-145 psi		UD
4 NPS		10.923 in <sup>2</sup>			5-1440 psi		UD
40 NPS		1005.31 in <sup>2</sup>			4-136 psi		UD
6 NPS		23.322 in <sup>2</sup>			5-1217 psi		UD
8 NPS		44.37 in <sup>2</sup>			5-1104 psi		UD

Design Name: DSC-AGS

NBCert #

88129

Manufacturer/Assembler

Designators

Expiration Date

Manufacturer

UD

08/06/2025

## Design Type

[Rupture Disk Device] DSC-AGS  
 HolderDesignation: N/A  
 Capacity Tests: Sec. UD at National Board Testing Lab on January 20, 2004  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 0.690 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Elfab Limited {ELF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.79 in <sup>2</sup>	1 in		10-800 psi		UD
1.5 NPS		1.77 in <sup>2</sup>	1.5 in		10-595 psi		UD
2 NPS		3.14 in <sup>2</sup>	2 in		10-400 psi		UD
2.5 NPS		4.79 in <sup>2</sup>	2.5 in		3-400 psi		UD
3 NPS		7.07 in <sup>2</sup>	3 in		3-350 psi		UD
4 NPS		12.57 in <sup>2</sup>	4 in		2-245 psi		UD
6 NPS		28.27 in <sup>2</sup>	6 in		1.5-145 psi		UD
8 NPS		50.03 in <sup>2</sup>	8 in		1-80 psi		UD
10 NPS		78.54 in <sup>2</sup>	10 in		1-70 psi		UD
12 NPS		113.1 in <sup>2</sup>	12 in		1-60 psi		UD
14 NPS		137.9 in <sup>2</sup>	14 in		1-50 psi		UD
16 NPS		182.7 in <sup>2</sup>	16 in		1-50 psi		UD
18 NPS		233.7 in <sup>2</sup>	18 in		1-40 psi		UD
20 NPS		291 in <sup>2</sup>	20 in		1-30 psi		UD

Design Name: DSC-CDD

NBCert # 88152

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UD

10/31/2029

#### Design Type

[Rupture Disk Device] DSC-CDD

HolderDesignation: HLD-STD

Capacity Tests: Sec. UD at National Board Testing Lab on July 6, 2006

Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl

Certified Value: 1.400 Unitless

Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)

Set Pressure Definition: Burst Pressure

Flow Area Configuration: MNFA

Designed by: Elfab Limited {ELF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.78 in <sup>2</sup>	1 in		369-12000 psi		UD
1.5 NPS		1.93 in <sup>2</sup>	1.57 in		227-6000 psi		UD
2 NPS		3.14 in <sup>2</sup>	2 in		188-6000 psi		UD
2.5 NPS		5.1 in <sup>2</sup>	2.55 in		150-6000 psi		UD
3 NPS		7.74 in <sup>2</sup>	3.14 in		100-6000 psi		UD
4 NPS		12.56 in <sup>2</sup>	4 in		87-6000 psi		UD
6 NPS		27.33 in <sup>2</sup>	5.9 in		70-6000 psi		UD
8 NPS		48.64 in <sup>2</sup>	7.87 in		60-3600 psi		UD
10 NPS		76.04 in <sup>2</sup>	9.84 in		52-3600 psi		UD
12 NPS		109.54 in <sup>2</sup>	11.81 in		42-3600 psi		UD
14 NPS		148.92 in <sup>2</sup>	13.77 in		42-2160 psi		UD
16 NPS		194.58 in <sup>2</sup>	15.74 in		42-2160 psi		UD
18 NPS		246.33 in <sup>2</sup>	17.71 in		42-1400 psi		UD

20 NPS	304.18 in <sup>2</sup>	19.68 in	42-1400 psi	UD
24 NPS	438.17 in <sup>2</sup>	23.62 in	42-1000 psi	UD

Design Name:	DSC-FCD	NBCert #	88062
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	04/25/2030
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Design Type
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[Rupture Disk Device] DSC-FCD  
HolderDesignation: HLD-STD  
Capacity Tests: Sec. UD at National Board Testing Lab on January 7, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 2.200 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Elfab Limited {ELF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.607 in <sup>2</sup>			20-30 psi	Air	UD
1.5 NPS		1.655 in <sup>2</sup>			14.5-20 psi		UD
10 NPS		74.22 in <sup>2</sup>			1-10 psi		UD
12 NPS		107.4 in <sup>2</sup>			1-10 psi		UD
14 NPS		146.5 in <sup>2</sup>			1-9 psi		UD
16 NPS		191.9 in <sup>2</sup>			1-7 psi		UD
18 NPS		243.2 in <sup>2</sup>			1-209 psi		UD
2 NPS		2.774 in <sup>2</sup>			7-20 psi		UD
2.5 NPS		4.678 in <sup>2</sup>			2-20 psi		UD
20 NPS		292.3 in <sup>2</sup>			1-209 psi		UD
24 NPS		422.6 in <sup>2</sup>			1-209 psi		UD
28 NPS		578.9 in <sup>2</sup>			1-209 psi		UD
3 NPS		7.216 in <sup>2</sup>			2-20 psi		UD
30 NPS		669.9 in <sup>2</sup>			1-209 psi		UD
32 NPS		764.77 in <sup>2</sup>			1-197 psi		UD
34 NPS		865.92 in <sup>2</sup>			1-184 psi		UD
36 NPS		973.34 in <sup>2</sup>			1-171 psi		UD
38 NPS		1087.05 in <sup>2</sup>			1-158 psi		UD
4 NPS		11.81 in <sup>2</sup>			2-20 psi		UD
40 NPS		1207.04 in <sup>2</sup>			1-145 psi		UD
42 NPS		1333.31 in <sup>2</sup>			1-132 psi		UD
44 NPS		1465.85 in <sup>2</sup>			1-119 psi		UD
46 NPS		1604.68 in <sup>2</sup>			1-106 psi		UD
48 NPS		1749.79 in <sup>2</sup>			1-93 psi		UD
6 NPS		26.246 in <sup>2</sup>			1-10 psi		UD
8 NPS		47.19 in <sup>2</sup>			1-10 psi		UD



Design Name: DSC-FCD/DCD	NBCert # 88208
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	10/08/2026
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#### Design Type

[Rupture Disk Device] DSC-FCD/DCD  
HolderDesignation: HLD-STD  
Capacity Tests: Sec. UD at National Board Testing Lab on January 28, 2014  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 3.940 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Elfab Limited {ELF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.42 in²			15-522 psi	Air	UD
1.5 NPS		1.12 in²			10-522 psi	Air	UD
10 NPS		43.53 in²			5-290 psi	Air	UD
12 NPS		73.3 in²			5-248 psi	Air	UD
14 NPS		100.84 in²			5-235 psi	Air	UD
16 NPS		132.21 in²			5-222 psi	Air	UD
18 NPS		167.1 in²			1-209 psi	Air	UD
2 NPS		1.86 in²			10-522 psi	Air	UD
2.5 NPS		2.96 in²			10-522 psi	Air	UD
20 NPS		206.81 in²			1-197 psi	Air	UD
22 NPS		247.7 in²			1-184 psi	Air	UD
24 NPS		294.4 in²			1-171 psi	Air	UD
26 NPS		346.55 in²			1-158 psi	Air	UD
28 NPS		408.06 in²			1-145 psi	Air	UD
3 NPS		5.29 in²			10-522 psi	Air	UD
30 NPS		459.57 in²			1-145 psi	Air	UD
32 NPS		527.47 in²			1-145 psi	Air	UD
34 NPS		593.93 in²			1-145 psi	Air	UD
36 NPS		655.72 in²			1-145 psi	Air	UD
38 NPS		742.45 in²			1-145 psi	Air	UD
4 NPS		7.34 in²			10-522 psi	Air	UD
40 NPS		811.36 in²			1-145 psi	Air	UD
42 NPS		907.54 in²			1-145 psi	Air	UD
44 NPS		983.56 in²			1-145 psi	Air	UD
46 NPS		1089.18 in²			1-145 psi	Air	UD
48 NPS		1172.32 in²			1-145 psi	Air	UD
6 NPS		14.34 in²			10-494 psi	Air	UD
8 NPS		26.63 in²			5-378 psi	Air	UD

Design Name:	DSC-OFS	NBCert #	88163
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/22/2026

#### Design Type

[Rupture Disk Device] DSC-OFS  
HolderDesignation: HLD-REV, HLD-SAN, HLD-SAN(W)  
Capacity Tests: Sec. UD at Elfab Limited on January 17, 2020  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.850 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Elfab Limited {ELF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 in		0.5 in <sup>2</sup>			18-145 psi		UD
1 NPS		0.7 in <sup>2</sup>			18-145 psi		UD
1.5 in		1.24 in <sup>2</sup>			14-130 psi		UD
1.5 NPS		1.74 in <sup>2</sup>			14-130 psi		UD
2 in		2.37 in <sup>2</sup>			10-116 psi		UD
2 NPS		2.95 in <sup>2</sup>			10-116 psi		UD
2.5 in		3.87 in <sup>2</sup>			7-116 psi		UD
2.5 NPS		4.2 in <sup>2</sup>			7-116 psi		UD
3 in		5.71 in <sup>2</sup>			6-101.5 psi		UD
3 NPS		6.52 in <sup>2</sup>			6-101.5 psi		UD
4 in		10.46 in <sup>2</sup>			5-101.5 psi		UD
4 NPS		11.53 in <sup>2</sup>			5-101.5 psi		UD
6 in		23.79 in <sup>2</sup>			5-40 psi		UD
6 NPS		26.17 in <sup>2</sup>			5-40 psi		UD

Design Name:	DSC-OPR	NBCert #	88185
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/28/2026

#### Design Type

[Rupture Disk Device] DSC-OPR  
HolderDesignation: HLD-REV, HLD-REV(W), HLD-SAN, HLD-SAN(W)  
Capacity Tests: Sec. UD at National Board Testing Lab on April 30, 2013  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.740 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Elfab Limited {ELF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 in	1 in	0.461 in <sup>2</sup>	0.87 in		50-1500 psi		UD
1 NPS	1 NPS	0.766 in <sup>2</sup>	1.12 in		50-1523 psi	Air	UD

1.5 in	1.5 in	1.146 in <sup>2</sup>	1.37 in	30-1500 psi		UD
1.5 NPS	1.5 NPS	1.651 in <sup>2</sup>	1.63 in	27-1523 psi	Air	UD
2 in	2 in	2.132 in <sup>2</sup>	1.87 in	13-1000 psi		UD
2 NPS	2 NPS	2.789 in <sup>2</sup>	2.13 in	14-1523 psi	Air	UD
2.5 in	2.5 in	3.484 in <sup>2</sup>	2.37 in	13-1000 psi		UD
2.5 NPS	2.5 NPS	4.119 in <sup>2</sup>	2.61 in	10-1305 psi	Air	UD
3 in	3 in	5.041 in <sup>2</sup>	2.87 in	13-1000 psi		UD
3 NPS	3 NPS	6.722 in <sup>2</sup>	3.35 in	7-1088 psi	Air	UD
4 in	4 in	8.923 in <sup>2</sup>	3.83 in	13-1000 psi		UD
4 NPS	4 NPS	10.923 in <sup>2</sup>	4.11 in	5-1440 psi	Air	UD
6 in	6 in	21.03 in <sup>2</sup>	5.78 in	5-650 psi		UD
6 NPS	6 NPS	23.309 in <sup>2</sup>	6.14 in	5-1217 psi	Air	UD
8 NPS	8 NPS	44.37 in <sup>2</sup>	8.18 in	5-1104 psi	Air	UD
10 NPS	10 NPS	65.248 in <sup>2</sup>	10.2 in	5-991 psi	Air	UD
12 NPS	12 NPS	95.006 in <sup>2</sup>	12.2 in	5-878 psi	Air	UD
14 NPS	14 NPS	125.982 in <sup>2</sup>	14.1 in	5-765 psi	Air	UD
16 NPS	16 NPS	171.545 in <sup>2</sup>	16.5 in	4-652 psi	Air	UD
18 NPS	18 NPS	213.795 in <sup>2</sup>	18 in	4-539 psi	Air	UD
20 NPS	20 NPS	259.735 in <sup>2</sup>	20 in	4-426 psi	Air	UD
24 NPS	24 NPS	372.075 in <sup>2</sup>	23.9 in	4-200 psi	Air	UD
26 NPS	26 NPS	424.74 in <sup>2</sup>	26 in	4-191 psi	Air	UD
28 NPS	28 NPS	492.6 in <sup>2</sup>	28 in	4-182 psi	Air	UD
30 NPS	30 NPS	565.49 in <sup>2</sup>	30 in	4-173 psi	Air	UD
32 NPS	32 NPS	643.3 in <sup>2</sup>	32 in	4-163 psi	Air	UD
34 NPS	34 NPS	726.34 in <sup>2</sup>	34 in	4-154 psi	Air	UD
36 NPS	36 NPS	814.3 in <sup>2</sup>	36 in	4-145 psi	Air	UD
40 NPS	40 NPS	1005.31 in <sup>2</sup>	40 in	4-136 psi	Air	UD

Design Name: DSC-SGD

NBCert #

88196

Manufacturer/Assembler

Designators

Expiration Date

Manufacturer

UD

04/25/2030

#### Design Type

[Rupture Disk Device] DSC-SGD

HolderDesignation: HLD-STD, HLD-STD(W), HLD-SAN, HLD-SAN(W)

Capacity Tests: Sec. UD at National Board Testing Lab on April 25, 2012

Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl

Certified Value: 0.680 Unitless

Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)

Set Pressure Definition: Burst Pressure

Flow Area Configuration: MNFA

Designed by: Elfab Limited {ELF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 in	1 in	0.378 in <sup>2</sup>			100-1500 psi	Air	UD
1 in	1 in	0.378 in <sup>2</sup>			100-1500 psi	Water	UD

1 NPS	1 NPS	0.5 in <sup>2</sup>	100-2683 psi	Air	UD
1 NPS	1 NPS	0.5 in <sup>2</sup>	100-2683 psi	Water	UD
1.5 in	1.5 in	0.938 in <sup>2</sup>	100-1500 psi	Air	UD
1.5 in	1.5 in	0.938 in <sup>2</sup>	100-1500 psi	Water	UD
1.5 NPS	1.5 NPS	1.24 in <sup>2</sup>	100-2031 psi	Air	UD
1.5 NPS	1.5 NPS	1.24 in <sup>2</sup>	100-2031 psi	Water	UD
10 NPS	10 NPS	48.44 in <sup>2</sup>	50-1650 psi	Air	UD
10 NPS	10 NPS	48.44 in <sup>2</sup>	50-1650 psi	Water	UD
12 NPS	12 NPS	69.75 in <sup>2</sup>	50-1430 psi	Air	UD
12 NPS	12 NPS	69.75 in <sup>2</sup>	50-1430 psi	Water	UD
14 NPS	14 NPS	94.94 in <sup>2</sup>	50-1100 psi	Air	UD
14 NPS	14 NPS	94.94 in <sup>2</sup>	50-1100 psi	Water	UD
16 NPS	16 NPS	124 in <sup>2</sup>	50-990 psi	Air	UD
16 NPS	16 NPS	124 in <sup>2</sup>	50-990 psi	Water	UD
18 NPS	18 NPS	156.94 in <sup>2</sup>	50-880 psi	Air	UD
18 NPS	18 NPS	156.94 in <sup>2</sup>	50-880 psi	Water	UD
2 in	2 in	1.748 in <sup>2</sup>	100-1000 psi	Air	UD
2 in	2 in	1.748 in <sup>2</sup>	100-1000 psi	Water	UD
2 NPS	2 NPS	2 in <sup>2</sup>	100-1813 psi	Air	UD
2 NPS	2 NPS	2 in <sup>2</sup>	100-1813 psi	Water	UD
2.5 in	2.5 in	2.808 in <sup>2</sup>	100-1000 psi	Air	UD
2.5 in	2.5 in	2.808 in <sup>2</sup>	100-1000 psi	Water	UD
2.5 NPS	2.5 NPS	3.27 in <sup>2</sup>	100-1523 psi	Air	UD
2.5 NPS	2.5 NPS	3.27 in <sup>2</sup>	100-1523 psi	Water	UD
20 NPS	20 NPS	193.75 in <sup>2</sup>	50-790 psi	Air	UD
20 NPS	20 NPS	193.75 in <sup>2</sup>	50-790 psi	Water	UD
24 NPS	24 NPS	279 in <sup>2</sup>	50-660 psi	Air	UD
24 NPS	24 NPS	279 in <sup>2</sup>	50-660 psi	Water	UD
26 NPS	26 NPS	327.44 in <sup>2</sup>	50-625 psi	Air	UD
26 NPS	26 NPS	327.44 in <sup>2</sup>	50-625 psi	Water	UD
28 NPS	28 NPS	379.75 in <sup>2</sup>	50-590 psi	Air	UD
28 NPS	28 NPS	379.75 in <sup>2</sup>	50-590 psi	Water	UD
3 in	3 in	4.118 in <sup>2</sup>	75-1000 psi	Air	UD
3 in	3 in	4.118 in <sup>2</sup>	75-1000 psi	Water	UD
3 NPS	3 NPS	4.96 in <sup>2</sup>	75-1309 psi	Air	UD
3 NPS	3 NPS	4.96 in <sup>2</sup>	75-1309 psi	Water	UD
30 NPS	30 NPS	435.94 in <sup>2</sup>	50-555 psi	Air	UD
30 NPS	30 NPS	435.94 in <sup>2</sup>	50-555 psi	Water	UD
32 NPS	32 NPS	496 in <sup>2</sup>	50-525 psi	Air	UD
32 NPS	32 NPS	496 in <sup>2</sup>	50-525 psi	Water	UD
34 NPS	34 NPS	559.94 in <sup>2</sup>	50-490 psi	Air	UD

34 NPS	34 NPS	559.94 in <sup>2</sup>	50-490 psi	Water	UD
36 NPS	36 NPS	627.45 in <sup>2</sup>	50-455 psi	Air	UD
36 NPS	36 NPS	627.45 in <sup>2</sup>	50-455 psi	Water	UD
38 NPS	38 NPS	699.44 in <sup>2</sup>	50-420 psi	Air	UD
38 NPS	38 NPS	699.44 in <sup>2</sup>	50-420 psi	Water	UD
4 in	4 in	7.334 in <sup>2</sup>	68-1000 psi	Air	UD
4 in	4 in	7.334 in <sup>2</sup>	68-1000 psi	Water	UD
4 NPS	4 NPS	8 in <sup>2</sup>	68-1088 psi	Air	UD
4 NPS	4 NPS	8 in <sup>2</sup>	68-1088 psi	Water	UD
40 NPS	40 NPS	775 in <sup>2</sup>	50-385 psi	Air	UD
40 NPS	40 NPS	775 in <sup>2</sup>	50-385 psi	Water	UD
42 NPS	42 NPS	854.44 in <sup>2</sup>	50-350 psi	Air	UD
42 NPS	42 NPS	854.44 in <sup>2</sup>	50-350 psi	Water	UD
44 NPS	44 NPS	937.75 in <sup>2</sup>	50-315 psi	Air	UD
44 NPS	44 NPS	937.75 in <sup>2</sup>	50-315 psi	Water	UD
46 NPS	46 NPS	1024.94 in <sup>2</sup>	50-280 psi	Air	UD
46 NPS	46 NPS	1024.94 in <sup>2</sup>	50-280 psi	Water	UD
48 NPS	48 NPS	1116 in <sup>2</sup>	50-245 psi	Air	UD
48 NPS	48 NPS	1116 in <sup>2</sup>	50-245 psi	Water	UD
6 in	6 in	16.704 in <sup>2</sup>	25-650 psi	Air	UD
6 in	6 in	16.704 in <sup>2</sup>	25-650 psi	Water	UD
6 NPS	6 NPS	17.43 in <sup>2</sup>	75-1980 psi	Air	UD
6 NPS	6 NPS	17.43 in <sup>2</sup>	75-1980 psi	Water	UD
8 NPS	8 NPS	31 in <sup>2</sup>	75-1650 psi	Air	UD
8 NPS	8 NPS	31 in <sup>2</sup>	75-1650 psi	Water	UD

Design Name: OPR NBCert # 88118

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 11/17/2027

#### Design Type

[Rupture Disk Device] OPR  
HolderDesignation: HLD-REV  
Capacity Tests: Sec. UD at National Board Testing Lab on March 25, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.190 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Elfab Limited {ELF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.766 in <sup>2</sup>			50-1523 psi		UD
1.5 NPS		1.651 in <sup>2</sup>			27-1523 psi		UD
10 NPS		65.248 in <sup>2</sup>			5-720 psi		UD
12 NPS		95.006 in <sup>2</sup>			5-720 psi		UD

14 NPS	125.982 in²	4-261 psi	UD
16 NPS	171.545 in²	4-150 psi	UD
18 NPS	213.795 in²	4-135 psi	UD
2 NPS	2.789 in²	14-1523 psi	UD
2.5 NPS	4.119 in²	10-1305 psi	UD
20 NPS	259.735 in²	4-131 psi	UD
24 NPS	372.075 in²	4-131 psi	UD
26 NPS	424.74 in²	4-131 psi	UD
28 NPS	492.6 in²	4-131 psi	UD
3 NPS	6.722 in²	7-1088 psi	UD
30 NPS	565.49 in²	4-131 psi	UD
32 NPS	642.4 in²	4-131 psi	UD
34 NPS	726.34 in²	4-131 psi	UD
36 NPS	814.3 in²	4-131 psi	UD
4 NPS	10.923 in²	5-1440 psi	UD
40 NPS	1005.31 in²	4-131 psi	UD
6 NPS	23.309 in²	5-870 psi	UD
8 NPS	44.37 in²	5-720 psi	UD

Emerson Asia Pacific PTE Ltd. (TSG)

Nameplate Abbreviation: ESPM

Singapore, 629361Singapore

This Company Manufactures or Assembles:

Design Name:

243/249/443/449/546/843/849/943/5046/5049/8043/8049

NBCert #

01292

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/22/2026

Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049  
 Capacity Tests: Sec. UV at unknown lab on August 8, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in²	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in²	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in²	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in²	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in²	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV

2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 253/259/453/459/853/859/953/959/5059/8053/8059 NBCert # 01304

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/22/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.627 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/5066/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/22/2026

## Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069  
 Capacity Tests: Sec. UV at unknown lab on July 30, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.860 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/22/2026

## Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.767 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V



1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/22/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.491 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 463/469/566/863/869/963/969/5066/5069 (Liquids)		NBCert #	01348
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	01/22/2026
Design Type			
[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids) Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.712 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name: 81P (Liquids)		NBCert #	01102
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	01/22/2026
Design Type			
[Relief Valve] 81P (Liquids) Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.720 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: 93% of pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC		NBCert #	15499
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	01/22/2026
Design Type			
[Relief Valve] 900 Series (Liquid), 7700, SNC Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.661 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC		NBCert #	15411
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	01/22/2026
Design Type			
[Safety Relief Valve] 900 Series, 7700, SNC Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV

0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/10/2030

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V

3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/10/2030

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/10/2030

## Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV

6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Emerson Automation Solutions Final Control (Shanghai) Co., Ltd. (SAG)

Nameplate Abbreviation: EMRC

Shanghai, 201712People's Republic of China

### This Company Manufactures or Assembles:

Design Name: 243/249/443/449/546/843/849/943/5046/5049/8043/8049 NBCert # 01292

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

09/18/2030

### Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049

Capacity Tests: Sec. UV at unknown lab on August 8, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV

1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 253/259/453/459/853/859/953/959/5059/8053/8059 NBCert # 01304

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/18/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.627 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/5066/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/18/2030



## Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069  
 Capacity Tests: Sec. UV at unknown lab on July 30, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.860 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/18/2030

## Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.767 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V

1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/18/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.491 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 463/469/566/863/869/963/969/5066/5069 (Liquids)		NBCert #	01348
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/18/2030
Design Type			
[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids) Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.712 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name: 5200 Series (Water K = 0.674)		NBCert #	36458
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV, V	03/04/2027
Design Type			
[Pilot Operated Pressure Relief Valve] 5200 Series (Water K = 0.674) Capacity Tests: Sec. UV, V at National Board Testing Lab on August 5, 2011 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless; (alternate medium): 0.674 Unitless; Certification Provisions: Economizer Service (Prev. CC 2446) Media - Test: Liquid, Steam; Certified: Air, Gas, Liquid, Steam Set Pressure Definition(1): Initial Audible Discharge; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.347 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.347 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-6170 psi	Steam	UV, V
1-1.5 NPS	2 - 3 NPS	0.347 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-6170 psi	Water	V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-6170 psi	Steam	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-6170 psi	Water	V
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-3705 psi	Steam	UV, V

1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-3705 psi	Water	V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-3705 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-3705 psi	Water	V
2.5-3 NPS	4 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-3705 psi	Air	UV
2.5-3 NPS	4 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-3705 psi	Steam	UV, V
2.5-3 NPS	4 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-3705 psi	Water	V
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-3705 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-3705 psi	Water	V
4 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.141 in	0.709 in	15-2220 psi	Air	UV
4 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.141 in	0.709 in	15-2220 psi	Steam	UV, V
4 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.141 in	0.709 in	15-2220 psi	Water	V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.779 in	15-1480 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.779 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.779 in	15-1480 psi	Water	V
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	1.263 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	1.263 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	1.263 in	15-1480 psi	Water	V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Water	V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	2 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	2 in	15-1480 psi	Steam	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	2 in	15-1480 psi	Water	V
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.55 in	15-1480 psi	Air	UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.55 in	15-1480 psi	Steam	UV, V
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.55 in	15-1480 psi	Water	V

Design Name: 81, 81P, 83, 84	NBCert # 01089
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	09/18/2030
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#### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 81P (Liquids)		NBCert #	01102
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	05/30/2030
Design Type			
[Relief Valve] 81P (Liquids) Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.720 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: 93% of pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC			NBCert # 15499	
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UV		02/14/2029

## Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.661 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC

NBCert #

15411

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2029

## Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV

1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name:	9340/9390	NBCert #	01258
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/26/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 9340/9390  
Capacity Tests: Sec. UV at Crosby Valve, LLC on September 8, 1989  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.629 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	3.35 in <sup>2</sup>	2.067 in	0.545 in	15-50 psi	Air	UV
3 NPS	4 NPS	7.39 in <sup>2</sup>	3.068 in	0.8 in	15-50 psi	Air	UV
4 NPS	6 NPS	12.73 in <sup>2</sup>	4.026 in	1.05 in	15-50 psi	Air	UV
6 NPS	8 NPS	28.89 in <sup>2</sup>	6.065 in	1.619 in	15-50 psi	Air	UV
8 NPS	10 NPS	50 in <sup>2</sup>	7.981 in	2.125 in	15-50 psi	Air	UV
10 NPS	12 NPS	78.85 in <sup>2</sup>	10.02 in	2.675 in	15-50 psi	Air	UV
12 NPS	16 NPS	113 in <sup>2</sup>	12 in	3.25 in	15-50 psi	Air	UV

Design Name:	BP	NBCert #	15501
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/14/2029

#### Design Type

[Safety Relief Valve] BP  
Capacity Tests: Sec. UV at Crosby Valve, LLC on August 24, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.841 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.0539 in <sup>2</sup>	[#4] 0.262 in	0.06 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.0929 in <sup>2</sup>	[#5] 0.344 in	0.085 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.114 in <sup>2</sup>	[#5A] 0.381 in	0.098 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.1364 in <sup>2</sup>	[#6] 0.417 in	0.112 in	50-3000 psi	Air	UV

Design Name:	BP (Liquids)	NBCert #	15534
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2029

### Design Type

[Relief Valve] BP (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on September 15, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.0539 in <sup>2</sup>	[#4] 0.262 in	0.06 in	50-3000 psi	Water	UV, V
0.75-1 NPS	1 NPS	0.0929 in <sup>2</sup>	[#5] 0.344 in	0.085 in	50-3000 psi	Water	UV, V
0.75-1 NPS	1 NPS	0.114 in <sup>2</sup>	[#5A] 0.381 in	0.098 in	50-3000 psi	Water	UV, V
0.75-1 NPS	1 NPS	0.1364 in <sup>2</sup>	[#6] 0.417 in	0.112 in	50-3000 psi	Water	UV, V

Design Name:	H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, NBCert # 15006, HSA, HSB, HSC, HSP)
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	10/10/2026

### Design Type

[Safety Valve] H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, HSA, HSB, HSC, HSP)  
Capacity Tests: Sec. UV, V at unknown lab on September 1, 1939  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-500 psi	Steam	UV, V
0.75 NPS	1.5 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-500 psi	Steam	UV, V
1-1.5 NPS	2 - 3 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-3100 psi	Steam	UV, V
1-2 NPS	2.5, 3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-3100 psi	Steam	UV, V
1.5-2 NPS	3, 4, 6 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-5000 psi	Steam	UV, V
1.5 NPS	3 NPS	0.865 in <sup>2</sup>	1.05 in	0.262 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.994 in <sup>2</sup>	[H2] 1.125 in	0.281 in	15-3100 psi	Steam	UV, V
2-3 NPS	3, 4, 6 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-5000 psi	Steam	UV, V
2 NPS	4 NPS	1.431 in <sup>2</sup>	[J2] 1.35 in	0.338 in	15-3100 psi	Steam	UV, V
2.5-3 NPS	4, 6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-6000 psi	Steam	UV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-6000 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.476 in	15-3100 psi	Steam	UV, V



3 NPS	6 NPS	3.341 in <sup>2</sup>	[L2] 2.062 in	0.516 in	15-3100 psi	Steam	UV, V
3-4 NPS	6, 8 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-6000 psi	Steam	UV, V
3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.563 in	15-6000 psi	Steam	UV, V
4 NPS	6 NPS	4.341 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-3100 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.712 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.937 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q2] 3.95 in	0.988 in	15-3100 psi	Steam	UV, V
6 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-3100 psi	Steam	UV, V
6 NPS	10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.239 in	15-3100 psi	Steam	UV, V
8 NPS	10, 12 NPS	26 in <sup>2</sup>	[T] 5.75 in	1.437 in	15-500 psi	Steam	UV, V
8 NPS	12, 14 NPS	28.274 in <sup>2</sup>	6 in	1.5 in	15-2000 psi	Steam	UV, V
10 NPS	14 NPS	44.18 in <sup>2</sup>	7.5 in	1.875 in	15-500 psi	Steam	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	9 in	2.25 in	15-500 psi	Steam	UV, V
14 NPS	18 NPS	86.59 in <sup>2</sup>	10.5 in	2.625 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	95.21 in <sup>2</sup>	11.01 in	2.753 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	114.04 in <sup>2</sup>	12.05 in	3.02 in	15-500 psi	Steam	UV, V
18 NPS	24 NPS	143.14 in <sup>2</sup>	13.5 in	3.375 in	15-500 psi	Steam	UV, V
20 NPS	24 NPS	176.71 in <sup>2</sup>	15 in	3.75 in	15-500 psi	Steam	UV, V

Design Name: H Series (Restricted Lift version of Cert # 15006) NBCert # 15567

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer V 03/04/2027

#### Design Type

[Safety Valve] H Series (Restricted Lift version of Cert # 15006)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 6, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.08 in	15-500 psi	Steam	UV, V
0.75 NPS	1.5 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.08 in	15-500 psi	Steam	UV, V
1-1.5 NPS	2, 2.5, 3 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.08 in	15-3100 psi	Steam	UV, V
1-2 NPS	2.5, 3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.08 in	15-3100 psi	Steam	UV, V
1.5-2 NPS	3, 4 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.08 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.865 in <sup>2</sup>	1.05 in	0.08 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.994 in <sup>2</sup>	[H2] 1.125 in	0.084 in	15-3100 psi	Steam	UV, V
2-3 NPS	3,4,6 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.096 in	15-5000 psi	Steam	UV, V
2 NPS	4 NPS	1.431 in <sup>2</sup>	[J2] 1.35 in	0.101 in	15-3100 psi	Steam	UV, V
2.5-3 NPS	4, 6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.115 in	15-3100 psi	Steam	UV, V

2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.135 in	15-3100 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-3100 psi	Steam	UV, V
3 NPS	6 NPS	3.341 in <sup>2</sup>	[L2] 2.062 in	0.155 in	15-3100 psi	Steam	UV, V
3-4 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.161 in	15-5000 psi	Steam	UV, V
3 NPS	6 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.169 in	15-3100 psi	Steam	UV, V
4 NPS	6 NPS	4.341 in <sup>2</sup>	[N] 2.351 in	0.176 in	15-3100 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.213 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P2] 3 in	0.225 in	15-3100 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q2] 3.95 in	0.296 in	15-3100 psi	Steam	UV, V
6 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	0.338 in	15-1200 psi	Steam	UV, V
6 NPS	10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.371 in	15-3100 psi	Steam	UV, V
8 NPS	10, 12 NPS	26 in <sup>2</sup>	[T] 5.75 in	0.431 in	15-500 psi	Steam	UV, V
8 NPS	12, 14 NPS	28.274 in <sup>2</sup>	6 in	0.45 in	15-2000 psi	Steam	UV, V
10 NPS	14 NPS	44.18 in <sup>2</sup>	7.5 in	0.562 in	15-500 psi	Steam	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	9 in	0.675 in	15-500 psi	Steam	UV, V
14 NPS	18 NPS	86.59 in <sup>2</sup>	10.5 in	0.787 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	95.21 in <sup>2</sup>	11.01 in	0.826 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	114.04 in <sup>2</sup>	12.05 in	0.906 in	15-500 psi	Steam	UV, V
18 NPS	24 NPS	143.14 in <sup>2</sup>	13.5 in	1.012 in	15-500 psi	Steam	UV, V
20 NPS	24 NPS	176.71 in <sup>2</sup>	15 in	1.125 in	15-500 psi	Steam	UV, V

Design Name: HE NBCert # 15039

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	V	08/31/2026

#### Design Type

[Safety Valve] HE  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 15, 1970  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	0.307 in <sup>2</sup>	0.625 in	0.156 in	15-3100 psi	Steam	NV, V
1.5 NPS	2.5 NPS	0.503 in <sup>2</sup>	0.8 in	0.2 in	15-3100 psi	Steam	NV, V
1.5 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-3100 psi	Steam	NV, V
2 NPS	4 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-3100 psi	Steam	NV, V
2.5 NPS	6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.382 in	15-3100 psi	Steam	NV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-3100 psi	Steam	NV, V
3 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-3100 psi	Steam	NV, V
3 NPS	6 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.562 in	15-3100 psi	Steam	NV, V

4 NPS	6 NPS	6.38 in <sup>2</sup>	2.85 in	0.712 in	15-3100 psi	Steam	NV, V
4 NPS	6, 8 NPS	7.069 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	NV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.937 in	15-3100 psi	Steam	NV, V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-1500 psi	Steam	NV, V
8 NPS	10, 12, 14 NPS	19.369 in <sup>2</sup>	[R3] 4.966 in	1.242 in	15-3100 psi	Steam	NV, V
8 NPS	10, 12, 14 NPS	21.1 in <sup>2</sup>	[R5] 5.183 in	1.295 in	15-3100 psi	Steam	NV, V
8 NPS	14 NPS	22 in <sup>2</sup>	[R6] 5.295 in	1.324 in	15-3100 psi	Steam	NV, V
10 NPS	16 NPS	36.4 in <sup>2</sup>	[T2] 6.808 in	1.707 in	15-3100 psi	Steam	NV, V

Design Name: HL, HSL NBCert # 15589

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	10/09/2026

### Design Type

[Safety Valve] HL, HSL  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on November 3, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	1.5 NPS	0.339 in <sup>2</sup>	[F] 0.657 in	0.164 in	15-725 psi	Steam	UV, V
1.25-2 NPS	1.5 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.21 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.868 in <sup>2</sup>	[H] 1.051 in	0.263 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.327 in <sup>2</sup>	[J] 1.3 in	0.325 in	15-725 psi	Steam	UV, V
2-3 NPS	3-4 NPS	2.046 in <sup>2</sup>	[K] 1.614 in	0.404 in	15-725 psi	Steam	UV, V
2.5-4 NPS	4-6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-725 psi	Steam	UV, V
3 NPS	4-6 NPS	3.955 in <sup>2</sup>	[M] 2.244 in	0.561 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	4.831 in <sup>2</sup>	[N] 2.48 in	0.62 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	7.031 in <sup>2</sup>	[P] 2.992 in	0.748 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[QQ] 3.75 in	0.937 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	12.174 in <sup>2</sup>	[Q] 3.937 in	0.984 in	15-725 psi	Steam	UV, V

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	02/14/2029

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2029

### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
 Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.870 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Liquids) (Restricted lift version of Certification 15095) NBCert # 01393

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	01/17/2029

### Design Type

[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Liquids) (Restricted lift version of Certification 15095)  
 Capacity Tests: Sec. NV, UV, V at unknown lab on October 14, 2015  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Restricted Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	UV, V

1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	UV, V

Design Name:	JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512)	NBCert #	01382
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/17/2029

#### Design Type

[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512)  
Capacity Tests: Sec. UV at unknown lab on October 13, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.6949 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/14/2029

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV

1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV



Design Name: JOS-E-RL/JBS-E-RL/JDS-E-RL (Restricted Lift version of cert 15208) NBCert # 01045

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 07/24/2029

#### Design Type

[Safety Relief Valve] JOS-E-RL/JBS-E-RL/JDS-E-RL (Restricted Lift version of cert 15208)

Capacity Tests: Sec. UV at unknown lab on May 26, 2015

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.865 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Restricted Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-15000 psi	Air	UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.08 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.08 in	15-15000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.08 in	15-15000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.08 in	15-2000 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.08 in	15-15000 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.08 in	15-2000 psi	Steam	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.099 in	15-15000 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.099 in	15-2000 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.127 in	15-10000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.127 in	15-2000 psi	Steam	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.152 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.152 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.18 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.18 in	15-3000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.189 in	15-2000 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.189 in	15-5000 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.213 in	15-2000 psi	Steam	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.213 in	15-5000 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.234 in	15-1480 psi	Steam	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.234 in	15-3000 psi	Air	UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.255 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.255 in	15-2250 psi	Steam	UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.284 in	15-1480 psi	Steam	UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.284 in	15-3000 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.373 in	15-1000 psi	Steam	UV

6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.373 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	0.373 in	15-2250 psi	Air	UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	0.373 in	15-2250 psi	Steam	UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	0.449 in	15-2250 psi	Air	UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	0.449 in	15-2250 psi	Steam	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.373 in	15-1480 psi	Steam	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.373 in	15-3000 psi	Air	UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	0.424 in	15-2250 psi	Air	UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	0.424 in	15-2250 psi	Steam	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.449 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.449 in	15-1480 psi	Steam	UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	0.572 in	15-2250 psi	Air	UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	0.572 in	15-2250 psi	Steam	UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.572 in	15-740 psi	Air	UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.572 in	15-740 psi	Steam	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	0.592 in	15-740 psi	Air	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	0.592 in	15-740 psi	Steam	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	0.731 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	0.731 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	0.933 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	0.933 in	15-325 psi	Steam	UV

Design Name: Kunkle 6000, 6252 Series NBCert # 36324

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	09/11/2030

#### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V

1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name: Kunkle 6933, 6934, 6935, 6254

NBCert #

36313

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

HV

09/11/2030

#### Design Type

[Safety Valve] Kunkle 6933, 6934, 6935, 6254  
Capacity Tests: Sec. HV at unknown lab on October 31, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-15 psi	Steam	HV
0.75-1 NPS	1 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-15 psi	Steam	HV
1-1.25 NPS	1.25 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-15 psi	Steam	HV
1.25-1.5 NPS	1.5 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-15 psi	Steam	HV
1.5-2 NPS	2 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-15 psi	Steam	HV
1.5-2.5 NPS	2.5 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-15 psi	Steam	HV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-15 psi	Steam	HV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-15 psi	Steam	HV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-15 psi	Steam	HV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-15 psi	Steam	HV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-15 psi	Steam	HV

Design Name: Kunkle 910 to 919

NBCert # 36100

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/11/2030

#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name:	Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)	NBCert #	36111
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV, V	09/11/2030
Design Type			
[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid) Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.710 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

Design Name:	Kunkle 920, 921, 927, Agco A (High Temp. water)	NBCert #	36098
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		V	09/11/2030
Design Type			
[Safety Valve] Kunkle 920, 921, 927, Agco A (High Temp. water) Capacity Tests: Sec. V at unknown lab on May 19, 1969 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless; Certification Provisions: Forced Flow Steam Generator/High Temp Hot Water (10% BD) Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	V

## Emerson Automation Solutions Final Control UK, Ltd. (BRK)

Lancashire, M28 3NAUnited Kingdom

### This Company Manufactures or Assembles:

Design Name: 20F (Liquid) (B, C, 4, 5, 8, 9 pilots) 4FF3, 4FF9, 8FF3, 8FF9		NBCert #	06107
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	05/16/2029
Design Type			
[Pilot Operated Pressure Relief Valve] 20F (Liquid) (B, C, 4, 5, 8, 9 pilots) 4FF3, 4FF9, 8FF3, 8FF9 Capacity Tests: Sec. UV at National Board Testing Lab on October 15, 1996 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.696 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.338 in <sup>2</sup>	[F] 0.656 in	0.21 in	29-6170 psi	Water	UV
1.5 NPS	3 NPS	0.871 in <sup>2</sup>	[H] 1.053 in	0.3 in	29-6170 psi	Water	UV
2 NPS	3 NPS	1.427 in <sup>2</sup>	[J] 1.348 in	0.38 in	29-6170 psi	Water	UV
3 NPS	4 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.668 in	29-3705 psi	Water	UV
4 NPS	6 NPS	7.068 in <sup>2</sup>	[P] 3 in	1 in	29-3705 psi	Water	UV
6 NPS	8 NPS	17.758 in <sup>2</sup>	[R] 4.755 in	1.584 in	29-1480 psi	Water	UV
8 NPS	10 NPS	28.86 in <sup>2</sup>	[T] 6.062 in	2.021 in	29-1480 psi	Water	UV

Design Name:	20F(2,4,5,8,9 pilots) 2FF3, 2FF9, 4FF3, 4FF9, 8FF3, 8FF9	NBCert #	06118
Manufacturer/Assembler	Designators		Expiration Date
Manufacturer	UV		05/16/2029
Design Type			
[Pilot Operated Pressure Relief Valve] 20F(2,4,5,8,9 pilots) 2FF3, 2FF9, 4FF3, 4FF9, 8FF3, 8FF9 Capacity Tests: Sec. UV at National Board Testing Lab on October 16, 1996 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.849 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.338 in <sup>2</sup>	[F] 0.656 in	0.164 in	26-6170 psi	Air	UV
1.5 NPS	3 NPS	0.871 in <sup>2</sup>	[H] 1.053 in	0.264 in	26-6170 psi	Air	UV
2 NPS	3 NPS	1.427 in <sup>2</sup>	[J] 1.348 in	0.337 in	26-6170 psi	Air	UV

3 NPS	4 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.585 in	26-3705 psi	Air	UV
4 NPS	6 NPS	7.068 in <sup>2</sup>	[P] 3 in	0.875 in	26-3705 psi	Air	UV
6 NPS	8 NPS	17.758 in <sup>2</sup>	[R] 4.755 in	1.386 in	26-1480 psi	Air	UV
8 NPS	10 NPS	28.86 in <sup>2</sup>	[T] 6.062 in	1.768 in	26-1480 psi	Air	UV

Design Name: 20R (2,4,5,8,9 pilots) 2FR3, 2FR9, 4FR3, 4FR9, 8FR3, 8FR9 NBCert # 06129

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 05/16/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 20R (2,4,5,8,9 pilots) 2FR3, 2FR9, 4FR3, 4FR9, 8FR3, 8FR9  
Capacity Tests: Sec. UV at National Board Testing Lab on October 15, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.849 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1945)  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.256 in <sup>2</sup>	[E] 0.656 in	0.125 in	26-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.164 in <sup>2</sup>	[D] 0.656 in	0.08 in	26-6170 psi	Air	UV
1.5 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 1.053 in	0.186 in	26-6170 psi	Air	UV
2 NPS	3 NPS	0.871 in <sup>2</sup>	[H] 1.348 in	0.205 in	15-6170 psi	Air	UV
2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 1.348 in	0.145 in	15-6170 psi	Air	UV
3 NPS	4 NPS	2.139 in <sup>2</sup>	[K] 2.008 in	0.394 in	15-3705 psi	Air	UV
3 NPS	4 NPS	1.427 in <sup>2</sup>	[J] 2.008 in	0.264 in	26-3705 psi	Air	UV
4 NPS	6 NPS	3.167 in <sup>2</sup>	[L] 3 in	0.392 in	26-3705 psi	Air	UV
4 NPS	6 NPS	4.307 in <sup>2</sup>	[M] 3 in	0.532 in	15-3705 psi	Air	UV
4 NPS	6 NPS	5.162 in <sup>2</sup>	[N] 3 in	0.638 in	15-3705 psi	Air	UV
6 NPS	8 NPS	12.864 in <sup>2</sup>	[Q] 4.755 in	1.003 in	26-1480 psi	Air	UV
8 NPS	10 NPS	22.118 in <sup>2</sup>	[S] 6.062 in	0.531 in	26-1480 psi	Air	UV

Design Name: 20R (Liquid) (4, 5, 8, 9 pilots) 4FR3, 4FR9, 8FR3, 8FR9 NBCert # 06095

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 05/16/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 20R (Liquid) (4, 5, 8, 9 pilots) 4FR3, 4FR9, 8FR3, 8FR9  
Capacity Tests: Sec. UV at National Board Testing Lab on October 15, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.696 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1945)  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.164 in <sup>2</sup>	[D] 0.656 in	0.102 in	29-6170 psi	Water	UV

1-1.5 NPS	2 NPS	0.256 in <sup>2</sup>	[E] 0.656 in	0.159 in	15-6170 psi	Water	UV
1.5-1.5 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 1.053 in	0.212 in	29-6170 psi	Water	UV
2 NPS	3 NPS	0.871 in <sup>2</sup>	[H] 1.348 in	0.232 in	15-6170 psi	Water	UV
2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 1.348 in	0.163 in	15-6170 psi	Water	UV
3 NPS	4 NPS	2.139 in <sup>2</sup>	[K] 2.008 in	0.451 in	15-3705 psi	Water	UV
3 NPS	4 NPS	1.427 in <sup>2</sup>	[J] 2.008 in	0.301 in	29-3705 psi	Water	UV
4 NPS	6 NPS	3.167 in <sup>2</sup>	[L] 3 in	0.448 in	29-3705 psi	Water	UV
4 NPS	6 NPS	4.307 in <sup>2</sup>	[M] 3 in	0.609 in	29-1480 psi	Water	UV
4 NPS	6 NPS	5.162 in <sup>2</sup>	[N] 3 in	0.73 in	15-1480 psi	Water	UV
6 NPS	8 NPS	12.864 in <sup>2</sup>	[Q] 4.755 in	1.147 in	29-1480 psi	Water	UV
8 NPS	10 NPS	22.118 in <sup>2</sup>	[S] 6.062 in	1.548 in	15-1480 psi	Water	UV

Design Name: 243/249/443/449/546/843/849/943/5046/5049/8043/8049 NBCert # 01292

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/19/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049

Capacity Tests: Sec. UV at unknown lab on August 8, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV



Design Name:	253/259/453/459/853/859/953/959/5059/8053/8059	NBCert #	01304
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/19/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.627 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name:	263/269/463/469/566/863/869/963/969/5066/5069	NBCert #	01315
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/19/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069  
Capacity Tests: Sec. UV at unknown lab on July 30, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV

3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 07/22/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.767 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 07/22/2026

## Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.491 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 463/469/566/863/869/963/969/5066/5069 (Liquids) NBCert # 01348

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/22/2026

## Design Type

[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids)  
 Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.712 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name:	746-1, JCE/1	NBCert #	06062
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/13/2028

#### Design Type

[Safety Relief Valve] 746-1, JCE/1  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on December 13, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.738 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.227 in	15-580 psi	Air	UV
1-1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.227 in	15-580 psi	Steam	UV
1.25-1.25 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.285 in	15-580 psi	Air	UV
1.25-1.25 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.285 in	15-580 psi	Steam	UV
1.5-1.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.364 in	15-580 psi	Air	UV
1.5-1.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.364 in	15-580 psi	Steam	UV
2-2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.453 in	15-580 psi	Air	UV
2-2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.453 in	15-580 psi	Steam	UV
2.5-2.5 NPS	4 NPS	4.382 in <sup>2</sup>	2.362 in	0.59 in	15-507 psi	Air	UV
2.5-2.5 NPS	4 NPS	4.382 in <sup>2</sup>	2.362 in	0.59 in	15-507 psi	Steam	UV
3-3 NPS	4 NPS	6.664 in <sup>2</sup>	2.913 in	0.728 in	15-464 psi	Air	UV
3-3 NPS	4 NPS	6.664 in <sup>2</sup>	2.913 in	0.728 in	15-464 psi	Steam	UV
4-4 NPS	6 NPS	10.303 in <sup>2</sup>	3.622 in	0.905 in	15-362 psi	Air	UV
4-4 NPS	6 NPS	10.303 in <sup>2</sup>	3.622 in	0.905 in	15-362 psi	Steam	UV

Design Name:	746-3, JCE/3 (Liquids)	NBCert #	06073
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/12/2028

**Design Type**

[Relief Valve] 746-3, JCE/3 (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on December 13, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.482 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.227 in	15-580 psi	Water	UV
1.25-1.25 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.285 in	15-580 psi	Water	UV
1.5-1.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.364 in	15-580 psi	Water	UV
2-2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.453 in	15-580 psi	Water	UV
2.5-2.5 NPS	4 NPS	4.382 in <sup>2</sup>	2.362 in	0.59 in	15-507 psi	Water	UV
3-3 NPS	4 NPS	6.664 in <sup>2</sup>	2.913 in	0.728 in	15-464 psi	Water	UV
4-4 NPS	6 NPS	10.303 in <sup>2</sup>	3.622 in	0.905 in	15-362 psi	Water	UV

Design Name: 776

NBCert #

06185

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

02/05/2026

**Design Type**

[Safety Relief Valve] 776  
Capacity Tests: Sec. UV at National Board Testing Lab on February 6, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.737 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.169 in <sup>2</sup>	0.464 in	0.116 in	15-600 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.486 in <sup>2</sup>	0.787 in	0.196 in	15-560 psi	Air	UV
1.25 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.226 in	15-500 psi	Air	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.286 in	15-500 psi	Air	UV
2 NPS	2.5 NPS	1.666 in <sup>2</sup>	1.456 in	0.364 in	15-450 psi	Air	UV

Design Name: 81, 81P, 83, 84

NBCert #

01089

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

08/19/2026

## Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
 Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.816 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
 Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 81P (Liquids)

NBCert #

01102

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	10/31/2026

## Design Type

[Relief Valve] 81P (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.720 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: 93% of pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC		NBCert #	15499
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	08/19/2026
Design Type			
[Relief Valve] 900 Series (Liquid), 7700, SNC Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.661 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC		NBCert #	15411
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	08/19/2026
Design Type			
[Safety Relief Valve] 900 Series, 7700, SNC Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV

0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name:	B Series	NBCert #	06006
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/15/2025

#### Design Type

[Safety Valve] B Series  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on February 9, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.857 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	0.281 in	0.07 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.094 in	15-3600 psi	Air	UV
1 NPS	1.5 NPS	0.196 in <sup>2</sup>	0.5 in	0.125 in	15-5000 psi	Air	UV
1.5 NPS	2 NPS	0.442 in <sup>2</sup>	0.75 in	0.187 in	15-2500 psi	Air	UV

Design Name:	C Series	NBCert #	06017
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 11/18/2025

#### Design Type

[Relief Valve] C Series  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on December 8, 1987  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.509 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	0.281 in	0.07 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.093 in	15-3600 psi	Water	UV



1 NPS	1.5 NPS	0.196 in <sup>2</sup>	0.5 in	0.125 in	15-5000 psi	Water	UV
1.5 NPS	2 NPS	0.442 in <sup>2</sup>	0.75 in	0.187 in	15-2500 psi	Water	UV

Design Name:	D Series (Liquids), 716H7	NBCert #	06141
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/07/2026

#### Design Type

[Safety Relief Valve] D Series (Liquids), 716H7  
Capacity Tests: Sec. UV at National Board Testing Lab on December 7, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.250 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.169 in <sup>2</sup>	0.464 in	0.116 in	15-740 psi	Water	UV

Design Name:	D Series, 716H7	NBCert #	06130
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/07/2026

#### Design Type

[Safety Relief Valve] D Series, 716H7  
Capacity Tests: Sec. UV at National Board Testing Lab on December 7, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.550 SCFM/PSIA; (alternate medium): 7.160 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.169 in <sup>2</sup>	0.464 in	0.116 in	15-740 psi	Air	UV
0.5-1 NPS	1 NPS	0.169 in <sup>2</sup>	0.464 in	0.116 in	15-740 psi	Steam	UV

Design Name:	FBCSR	NBCert #	81087
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 07/01/2027

#### Design Type

[Rupture Disk Device] FBCSR  
Capacity Tests: Sec. UD at National Board Testing Lab on December 16, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.600 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			21.8-15000 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			14.5-10000 psi		UD
10 NPS		78.8 in <sup>2</sup>			2.9-1250 psi		UD
12 NPS		112.9 in <sup>2</sup>			2.9-1000 psi		UD
2 NPS		3.35 in <sup>2</sup>			10.9-7500 psi		UD
2.5 NPS		4.78 in <sup>2</sup>			9.4-6000 psi		UD
3 NPS		7.39 in <sup>2</sup>			7.3-5000 psi		UD
4 NPS		12.73 in <sup>2</sup>			5.1-3500 psi		UD
6 NPS		28.89 in <sup>2</sup>			4.3-2250 psi		UD
8 NPS		50.02 in <sup>2</sup>			3.6-1650 psi		UD

Design Name: FBCSV	NBCert # 81076
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/09/2027

#### Design Type

[Rupture Disk Device] FBCSV  
HolderDesignation: CST, CSB, CSB-T  
Capacity Tests: Sec. UD at National Board Testing Lab on December 16, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.200 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			21.8-15000 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			14.5-10000 psi		UD
10 NPS		78.8 in <sup>2</sup>			2.9-1250 psi		UD
12 NPS		112.9 in <sup>2</sup>			2.9-1000 psi		UD
14 NPS		137.6 in <sup>2</sup>			2.1-825 psi		UD
16 NPS		182.4 in <sup>2</sup>			1.7-700 psi		UD
18 NPS		233.4 in <sup>2</sup>			1.4-600 psi		UD
2 NPS		3.35 in <sup>2</sup>			10.9-7500 psi		UD
2.5 NPS		4.78 in <sup>2</sup>			9.4-6000 psi		UD
20 NPS		290.7 in <sup>2</sup>			1-500 psi		UD
24 NPS		425 in <sup>2</sup>			1-400 psi		UD
28 NPS		582 in <sup>2</sup>			1-300 psi		UD
3 NPS		7.39 in <sup>2</sup>			7.3-5000 psi		UD
30 NPS		671 in <sup>2</sup>			1-250 psi		UD
32 NPS		767 in <sup>2</sup>			1-200 psi		UD
36 NPS		975 in <sup>2</sup>			1-150 psi		UD
4 NPS		12.73 in <sup>2</sup>			5.1-3500 psi		UD

40 NPS	1209 in²	1-110 psi	UD
44 NPS	1470 in²	1-80 psi	UD
48 NPS	1752 in²	1-50 psi	UD
6 NPS	28.89 in²	4.3-2250 psi	UD
8 NPS	50.02 in²	3.6-1650 psi	UD

Design Name:	JLT-JOS/JLT-JBS/JLT-JDS (Liquids)	NBCert #	15095
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/19/2026

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in²	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in²	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in²	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in²	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in²	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in²	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in²	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in²	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in²	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in²	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in²	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in²	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in²	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in²	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in²	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in²	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in²	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in²	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in²	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in²	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in²	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in²	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in²	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in²	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV

4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/19/2026

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL  
(Liquids) (Restricted lift version of  
Certification 15095) NBCert # 01393

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/09/2027

## Design Type

[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Liquids) (Restricted lift version of Certification 15095)

Capacity Tests: Sec. NV, UV, V at unknown lab on October 14, 2015

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.656 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Restricted Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	UV, V

Design Name:		JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512)	NBCert #	01382
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UV		12/09/2027
Design Type				
[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512) Capacity Tests: Sec. UV at unknown lab on October 13, 2015 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.870 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Restricted Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}				

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.6949 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB		NBCert #	15208
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	08/22/2026
Design Type			
[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.865 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV

6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

Design Name:	LRB	NBCert #	81009
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 06/25/2027

#### Design Type

[Rupture Disk Device] LRB  
HolderDesignation: RBH, RBH-T  
Capacity Tests: Sec. UD at National Board Testing Lab on December 4, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.000 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			29-5500 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			26-5500 psi		UD
10 NPS		77.72 in <sup>2</sup>			14.5-600 psi		UD
12 NPS		113.1 in <sup>2</sup>			14.5-500 psi		UD
14 NPS		137.9 in <sup>2</sup>			14.5-400 psi		UD
16 NPS		182.7 in <sup>2</sup>			14.5-300 psi		UD
18 NPS		233.7 in <sup>2</sup>			14.5-250 psi		UD
2 NPS		3.36 in <sup>2</sup>			23-5500 psi		UD
2.5 NPS		4.79 in <sup>2</sup>			20-2500 psi		UD
20 NPS		291 in <sup>2</sup>			14.5-200 psi		UD
3 NPS		7.39 in <sup>2</sup>			18-1750 psi		UD
4 NPS		12.73 in <sup>2</sup>			14.5-1300 psi		UD
6 NPS		28.89 in <sup>2</sup>			14.5-900 psi		UD
8 NPS		50.03 in <sup>2</sup>			14.5-750 psi		UD



Design Name:	LRF	NBCert #	81133
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	07/09/2027

#### Design Type

[Rupture Disk Device] LRF  
HolderDesignation: RBH, RBH-T  
Capacity Tests: Sec. UD at National Board Testing Lab on March 4, 2010  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.390 Unitless  
Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.85 in <sup>2</sup>			130-5500 psi		UD
1.5 NPS		2 in <sup>2</sup>			105-5500 psi		UD
10 NPS		76.97 in <sup>2</sup>			45-600 psi		UD
12 NPS		110.5 in <sup>2</sup>			45-500 psi		UD
14 NPS		135 in <sup>2</sup>			45-400 psi		UD
16 NPS		178.9 in <sup>2</sup>			45-300 psi		UD
18 NPS		228.9 in <sup>2</sup>			45-250 psi		UD
2 NPS		3.28 in <sup>2</sup>			75-5500 psi		UD
2.5 NPS		4.67 in <sup>2</sup>			79-3750 psi		UD
20 NPS		285.1 in <sup>2</sup>			45-200 psi		UD
3 NPS		7.25 in <sup>2</sup>			65-2625 psi		UD
4 NPS		12.42 in <sup>2</sup>			55-1950 psi		UD
6 NPS		28.28 in <sup>2</sup>			45-900 psi		UD
8 NPS		48.93 in <sup>2</sup>			45-750 psi		UD

Design Name:	RBF	NBCert #	81100
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	11/13/2025

#### Design Type

[Rupture Disk Device] RBF  
HolderDesignation: RBH  
Capacity Tests: Sec. UD at National Board Testing Lab on December 16, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.000 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.85 in <sup>2</sup>			29-5500 psi		UD
1.5 NPS		2 in <sup>2</sup>			26-5500 psi		UD

10 NPS	76.97 in <sup>2</sup>	14.5-600 psi	UD
12 NPS	110.45 in <sup>2</sup>	14.5-500 psi	UD
14 NPS	134.96 in <sup>2</sup>	14.5-400 psi	UD
16 NPS	178.9 in <sup>2</sup>	14.5-300 psi	UD
18 NPS	228.9 in <sup>2</sup>	14.5-250 psi	UD
2 NPS	3.28 in <sup>2</sup>	23-5500 psi	UD
2.5 NPS	4.67 in <sup>2</sup>	20-3750 psi	UD
20 NPS	285.1 in <sup>2</sup>	14.5-200 psi	UD
3 NPS	7.25 in <sup>2</sup>	18-2625 psi	UD
4 NPS	12.42 in <sup>2</sup>	18-1950 psi	UD
6 NPS	28.28 in <sup>2</sup>	14.5-900 psi	UD
8 NPS	48.93 in <sup>2</sup>	14.5-750 psi	UD

Design Name: RBH NBCert # 81010

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 07/07/2027

#### Design Type

[Rupture Disk Device] RBH  
 HolderDesignation: RBH, RBH-T  
 Capacity Tests: Sec. UD at National Board Testing Lab on December 4, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.500 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.3 in <sup>2</sup>			87-5500 psi		UD
0.75 NPS		0.53 in <sup>2</sup>			87-5500 psi		UD
1 NPS		0.86 in <sup>2</sup>			29-5500 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			26-5500 psi		UD
10 NPS		77.72 in <sup>2</sup>			14.5-600 psi		UD
12 NPS		113.1 in <sup>2</sup>			14.5-500 psi		UD
14 NPS		137.9 in <sup>2</sup>			14.5-400 psi		UD
16 NPS		182.7 in <sup>2</sup>			14.5-300 psi		UD
18 NPS		233.7 in <sup>2</sup>			14.5-250 psi		UD
2 NPS		3.36 in <sup>2</sup>			23-5500 psi		UD
2.5 NPS		4.79 in <sup>2</sup>			20-3750 psi		UD
20 NPS		291 in <sup>2</sup>			14.5-200 psi		UD
3 NPS		7.39 in <sup>2</sup>			18-2625 psi		UD
4 NPS		12.73 in <sup>2</sup>			14.5-1950 psi		UD
6 NPS		28.89 in <sup>2</sup>			14.5-900 psi		UD
8 NPS		50.03 in <sup>2</sup>			14.5-750 psi		UD

Design Name:	WB 100/200 (Liquids)	NBCert #	06028
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/15/2025

### Design Type

[Relief Valve] WB 100/200 (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on November 7, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.588 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.098 in	15-6000 psi	Water	UV
1-1.5 NPS	2, 3 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.132 in	15-6000 psi	Water	UV
1.5 NPS	2, 3 NPS	0.338 in <sup>2</sup>	[F] 0.656 in	0.164 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.558 in <sup>2</sup>	[G] 0.843 in	0.211 in	15-3600 psi	Water	UV
1.5-2 NPS	3 NPS	0.871 in <sup>2</sup>	[H] 1.053 in	0.263 in	15-3000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.429 in <sup>2</sup>	[J] 1.349 in	0.337 in	15-3000 psi	Water	UV
3 NPS	4, 6 NPS	2.04 in <sup>2</sup>	[K] 1.611 in	0.403 in	15-2500 psi	Water	UV
3-4 NPS	4, 6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-1500 psi	Water	UV
4 NPS	6 NPS	3.986 in <sup>2</sup>	[M] 2.255 in	0.564 in	15-1200 psi	Water	UV
4 NPS	6 NPS	4.817 in <sup>2</sup>	[N] 2.476 in	0.619 in	15-1000 psi	Water	UV
4 NPS	6 NPS	7.082 in <sup>2</sup>	[P] 3.003 in	0.751 in	15-1000 psi	Water	UV
6 NPS	8 NPS	12.266 in <sup>2</sup>	[Q] 3.951 in	0.988 in	15-600 psi	Water	UV
6 NPS	8, 10 NPS	17.76 in <sup>2</sup>	[R] 4.755 in	1.189 in	15-300 psi	Water	UV
8 NPS	10 NPS	28.86 in <sup>2</sup>	[T] 6.061 in	1.515 in	15-300 psi	Water	UV

Design Name:	WB 300B	NBCert #	06084
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/19/2029

### Design Type

[Safety Relief Valve] WB 300B  
Capacity Tests: Sec. UV at National Board Testing Lab on October 21, 1991  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.833 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control UK, Ltd. {BRK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2, 2.5 NPS	0.338 in <sup>2</sup>	[F] 0.656 in	0.164 in	15-5000 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.558 in <sup>2</sup>	[G] 0.843 in	0.21 in	15-3600 psi	Air	UV

1.5-2 NPS	3 NPS	0.871 in <sup>2</sup>	[H] 1.053 in	0.263 in	15-2750 psi	Air	UV
2-3 NPS	3, 4 NPS	1.429 in <sup>2</sup>	[J] 1.349 in	0.337 in	15-2700 psi	Air	UV
3 NPS	4, 6 NPS	2.04 in <sup>2</sup>	[K] 1.611 in	0.402 in	15-2160 psi	Air	UV
3-4 NPS	4, 6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-1500 psi	Air	UV
4 NPS	6 NPS	3.986 in <sup>2</sup>	[M] 2.255 in	0.563 in	15-1100 psi	Air	UV
4 NPS	6 NPS	4.817 in <sup>2</sup>	[N] 2.476 in	0.619 in	15-1000 psi	Air	UV
4 NPS	6 NPS	7.081 in <sup>2</sup>	[P] 3.003 in	0.751 in	15-1000 psi	Air	UV
6 NPS	8 NPS	12.265 in <sup>2</sup>	[Q] 3.951 in	0.987 in	15-600 psi	Air	UV
6 NPS	8, 10 NPS	17.76 in <sup>2</sup>	[R] 4.755 in	1.188 in	15-300 psi	Air	UV
8 NPS	10 NPS	28.85 in <sup>2</sup>	[T] 6.061 in	1.515 in	15-300 psi	Air	UV

## Emerson Automation Solutions Final Control US LP (AGC)

Nameplate Abbreviation: EMRT

Stafford, TX 77477United States

### This Company Manufactures or Assembles:

Design Name: 443/449/843/849 (Air/Gas & Liquid) NBCert # 15040

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/14/2028

### Design Type

[Pilot Operated Pressure Relief Valve] 443/449/843/849 (Air/Gas & Liquid)  
Capacity Tests: Sec. UV at Anderson Greenwood Crosby on October 12, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; (alternate medium): 0.767 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Initial Audible Discharge; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Air	UV
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Air	UV
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV

8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Air	UV
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Design Name:		453/459/853/859 (Air/Gas & Liquid)		NBCert #	15084
Manufacturer/Assembler			Designators		Expiration Date
Manufacturer			UV		03/11/2028
Design Type					

[Pilot Operated Pressure Relief Valve] 453/459/853/859 (Air/Gas & Liquid)  
 Capacity Tests: Sec. UV at Anderson Greenwood Crosby on December 6, 2021  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.627 Unitless; (alternate medium): 0.491 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
 Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
 Set Pressure Definition(1): Initial Audible Discharge; (2): First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Air	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Air	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Air	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Air	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Air	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Air	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Air	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Air	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Air	UV

Design Name: 463/469/863/869 (Air/Gas & Liquid)				NBCert #	15062		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		09/14/2028		

**Design Type**

[Pilot Operated Pressure Relief Valve] 463/469/863/869 (Air/Gas & Liquid)  
Capacity Tests: Sec. UV at Anderson Greenwood Crosby on October 12, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless; (alternate medium): 0.712 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Initial Audible Discharge; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-7600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Air	UV

Design Name: 5087 (1.500" Orifice)

NBCert # 02147

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/19/2025

**Design Type**

[Pilot Operated Pressure Relief Valve] 5087 (1.500" Orifice)  
Capacity Tests: Sec. UV at Crosby Valve, LLC on February 14, 2019  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 32.920 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 in	4 in	1.77 in <sup>2</sup>	1.5 in	1.329 in	6000-12500 psi	Water	UV

Design Name: 63B (.312", #5 orifice)		NBCert #	01056
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/13/2028
Design Type			
[Safety Relief Valve] 63B (.312", #5 orifice) Capacity Tests: Sec. UV at Crosby Valve, LLC on December 3, 1975 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.180 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	0.077 in <sup>2</sup>	[#5] 0.312 in	0.15 in	37-531 psi	Air	UV

Design Name: 63B (.437", #7 orifice)		NBCert #	01067
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/13/2028
Design Type			
[Safety Relief Valve] 63B (.437", #7 orifice) Capacity Tests: Sec. UV at Crosby Valve, LLC on December 3, 1975 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.370 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.15 in <sup>2</sup>	[#7] 0.437 in	0.16 in	45-374 psi	Air	UV

Design Name: 727		NBCert #	01247
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	12/18/2028
Design Type			
[Pilot Operated Pressure Relief Valve] 727 Capacity Tests: Sec. UV at Crosby Valve, LLC on August 19, 1987 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.788 Unitless Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.25 in <sup>2</sup>	[E] 0.564 in	0.058 in	15-1480 psi	Air	UV
1.5 NPS	2 NPS	0.25 in <sup>2</sup>	[E] 0.564 in	0.058 in	15-1480 psi	Steam	UV

2-2 NPS	3 NPS	0.629 in <sup>2</sup>	[G] 0.895 in	0.14 in	15-1480 psi	Air	UV
2-2 NPS	3 NPS	0.629 in <sup>2</sup>	[G] 0.895 in	0.14 in	15-1480 psi	Steam	UV
2-2 NPS	3 NPS	0.981 in <sup>2</sup>	[H] 1.118 in	0.224 in	15-1480 psi	Air	UV
2-2 NPS	3 NPS	0.981 in <sup>2</sup>	[H] 1.118 in	0.224 in	15-1480 psi	Steam	UV
2-2 NPS	3 NPS	1.635 in <sup>2</sup>	[J] 1.443 in	0.65 in	15-1480 psi	Air	UV
2-2 NPS	3 NPS	1.635 in <sup>2</sup>	[J] 1.443 in	0.65 in	15-1480 psi	Steam	UV
3 NPS	4 NPS	1.635 in <sup>2</sup>	[J] 1.443 in	0.275 in	15-1480 psi	Air	UV
3 NPS	4 NPS	1.635 in <sup>2</sup>	[J] 1.443 in	0.275 in	15-1480 psi	Steam	UV
3-3 NPS	4 NPS	2.298 in <sup>2</sup>	[K] 1.711 in	0.41 in	15-1480 psi	Air	UV
3-3 NPS	4 NPS	2.298 in <sup>2</sup>	[K] 1.711 in	0.41 in	15-1480 psi	Steam	UV
3-3 NPS	4 NPS	3.557 in <sup>2</sup>	[L] 2.128 in	0.751 in	15-1480 psi	Air	UV
3-3 NPS	4 NPS	3.557 in <sup>2</sup>	[L] 2.128 in	0.751 in	15-1480 psi	Steam	UV
4 NPS	6 NPS	3.557 in <sup>2</sup>	[L] 2.128 in	0.374 in	15-1480 psi	Air	UV
4 NPS	6 NPS	3.557 in <sup>2</sup>	[L] 2.128 in	0.374 in	15-1480 psi	Steam	UV
4-4 NPS	6 NPS	4.505 in <sup>2</sup>	[M] 2.395 in	0.659 in	15-1480 psi	Air	UV
4-4 NPS	6 NPS	4.505 in <sup>2</sup>	[M] 2.395 in	0.659 in	15-1480 psi	Steam	UV
4-4 NPS	6 NPS	5.425 in <sup>2</sup>	[N] 2.628 in	0.824 in	15-1480 psi	Air	UV
4-4 NPS	6 NPS	5.425 in <sup>2</sup>	[N] 2.628 in	0.824 in	15-1480 psi	Steam	UV
4-4 NPS	6 NPS	7.911 in <sup>2</sup>	[P] 3.174 in	1.536 in	15-1480 psi	Air	UV
4-4 NPS	6 NPS	7.911 in <sup>2</sup>	[P] 3.174 in	1.536 in	15-1480 psi	Steam	UV
6-6 NPS	8 NPS	13.813 in <sup>2</sup>	[Q] 4.194 in	1.302 in	15-1480 psi	Air	UV
6-6 NPS	8 NPS	13.813 in <sup>2</sup>	[Q] 4.194 in	1.302 in	15-1480 psi	Steam	UV
6-6 NPS	8 NPS	20 in <sup>2</sup>	[R] 5.046 in	2.304 in	15-1480 psi	Air	UV
6-6 NPS	8 NPS	20 in <sup>2</sup>	[R] 5.046 in	2.304 in	15-1480 psi	Steam	UV
6-6 NPS	8 NPS	22.99 in <sup>2</sup>	[RR] 5.41 in	2.304 in	15-1480 psi	Air	UV
6-6 NPS	8 NPS	22.99 in <sup>2</sup>	[RR] 5.41 in	2.304 in	15-1480 psi	Steam	UV
8-8 NPS	10 NPS	32.5 in <sup>2</sup>	[T] 6.433 in	2.943 in	15-1480 psi	Air	UV
8-8 NPS	10 NPS	32.5 in <sup>2</sup>	[T] 6.433 in	2.943 in	15-1480 psi	Steam	UV

Design Name: 81, 81P, 83, 84

NBCert #

01089

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

11/09/2028

#### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 81P (Liquids)		NBCert # 01102
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	09/20/2028
Design Type		
<div>[Relief Valve] 81P (Liquids) Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.720 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: 93% of pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name: 83F			NBCert # 01113	
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UV		09/13/2028

**Design Type**

[Safety Relief Valve] 83F  
Capacity Tests: Sec. UV at Crosby Valve, LLC on April 14, 1987  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.779 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.26 in <sup>2</sup>	[E] 0.576 in	0.178 in	15-500 psi	Air	UV
1.5 NPS	2 NPS	0.66 in <sup>2</sup>	[G] 0.917 in	0.318 in	15-500 psi	Air	UV
2 NPS	3 NPS	1.697 in <sup>2</sup>	[J] 1.47 in	0.548 in	15-500 psi	Air	UV

Design Name: 900 Series (Liquid), 7700, SNC NBCert # 15499

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV, V

10/22/2025

**Design Type**

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC NBCert # 15411

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

10/22/2025

## Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: 91/94

NBCert # 01124

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/09/2028

## Design Type

[Pilot Operated Pressure Relief Valve] 91/94  
 Capacity Tests: Sec. UV at Crosby Valve, LLC on January 18, 1971  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.770 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	2.924 in <sup>2</sup>	1.93 in	0.83 in	15-50 psi	Air	UV
3 NPS	4 NPS	6.243 in <sup>2</sup>	2.82 in	1.2 in	15-50 psi	Air	UV
4 NPS	6 NPS	10.326 in <sup>2</sup>	3.627 in	1.46 in	15-50 psi	Air	UV
6 NPS	8 NPS	22.217 in <sup>2</sup>	5.32 in	1.88 in	15-50 psi	Air	UV
8 NPS	10 NPS	39.571 in <sup>2</sup>	7.1 in	2.52 in	15-50 psi	Air	UV
10 NPS	12 NPS	56.5 in <sup>2</sup>	8.5 in	3.02 in	15-50 psi	Air	UV
12 NPS	16 NPS	89.874 in <sup>2</sup>	10.7 in	3.8 in	15-50 psi	Air	UV

Design Name: 93		NBCert # 01135	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/13/2028
Design Type			
[Pilot Operated Pressure Relief Valve] 93 Capacity Tests: Sec. UV at Phillips Petroleum on November 30, 1966 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.845 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	2.29 in <sup>2</sup>	1.927 in	1.06 in	15-50 psi	Air	UV
3 NPS	4 NPS	5.16 in <sup>2</sup>	2.81 in	1.24 in	15-50 psi	Air	UV
4 NPS	6 NPS	8.74 in <sup>2</sup>	3.627 in	1.57 in	15-50 psi	Air	UV
6 NPS	8 NPS	19.56 in <sup>2</sup>	5.31 in	2.26 in	15-50 psi	Air	UV
8 NPS	10 NPS	36.4 in <sup>2</sup>	7.1 in	3.12 in	15-50 psi	Air	UV
10 NPS	12 NPS	51 in <sup>2</sup>	8.5 in	3.02 in	15-30 psi	Air	UV
12 NPS	16 NPS	84 in <sup>2</sup>	10.7 in	4.71 in	15-30 psi	Air	UV

Design Name: 9340/9390		NBCert # 01258	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/14/2028
Design Type			
[Pilot Operated Pressure Relief Valve] 9340/9390 Capacity Tests: Sec. UV at Crosby Valve, LLC on September 8, 1989 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.629 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	3.35 in <sup>2</sup>	2.067 in	0.545 in	15-50 psi	Air	UV
3 NPS	4 NPS	7.39 in <sup>2</sup>	3.068 in	0.8 in	15-50 psi	Air	UV
4 NPS	6 NPS	12.73 in <sup>2</sup>	4.026 in	1.05 in	15-50 psi	Air	UV
6 NPS	8 NPS	28.89 in <sup>2</sup>	6.065 in	1.619 in	15-50 psi	Air	UV
8 NPS	10 NPS	50 in <sup>2</sup>	7.981 in	2.125 in	15-50 psi	Air	UV
10 NPS	12 NPS	78.85 in <sup>2</sup>	10.02 in	2.675 in	15-50 psi	Air	UV
12 NPS	16 NPS	113 in <sup>2</sup>	12 in	3.25 in	15-50 psi	Air	UV

Design Name:	95	NBCert #	01146
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/13/2028

Design Type
[Pilot Operated Pressure Relief Valve] 95 Capacity Tests: Sec. UV at Crosby Valve, LLC on July 30, 1980 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.852 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	2.926 in <sup>2</sup>	1.93 in	0.96 in	15-150 psi	Air	UV
3 NPS	4 NPS	6.246 in <sup>2</sup>	2.82 in	1.23 in	15-150 psi	Air	UV
4 NPS	6 NPS	10.321 in <sup>2</sup>	3.625 in	1.82 in	15-150 psi	Air	UV
6 NPS	8 NPS	22.145 in <sup>2</sup>	5.31 in	2.2 in	15-150 psi	Air	UV

Design Name:	BP	NBCert #	15501
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	10/22/2025

Design Type
[Safety Relief Valve] BP Capacity Tests: Sec. UV at Crosby Valve, LLC on August 24, 1995 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.841 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.0539 in <sup>2</sup>	[#4] 0.262 in	0.06 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.0929 in <sup>2</sup>	[#5] 0.344 in	0.085 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.114 in <sup>2</sup>	[#5A] 0.381 in	0.098 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.1364 in <sup>2</sup>	[#6] 0.417 in	0.112 in	50-3000 psi	Air	UV

Design Name:	BP (Liquids)	NBCert #	15534
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	10/22/2025

## Design Type

[Relief Valve] BP (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on September 15, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.0539 in <sup>2</sup>	[#4] 0.262 in	0.06 in	50-3000 psi	Water	UV, V
0.75-1 NPS	1 NPS	0.0929 in <sup>2</sup>	[#5] 0.344 in	0.085 in	50-3000 psi	Water	UV, V
0.75-1 NPS	1 NPS	0.114 in <sup>2</sup>	[#5A] 0.381 in	0.098 in	50-3000 psi	Water	UV, V
0.75-1 NPS	1 NPS	0.1364 in <sup>2</sup>	[#6] 0.417 in	0.112 in	50-3000 psi	Water	UV, V

Design Name: H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, NBCert # 15006 HSA, HSB, HSC, HSP)

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	06/07/2027

## Design Type

[Safety Valve] H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, HSA, HSB, HSC, HSP)  
Capacity Tests: Sec. UV, V at unknown lab on September 1, 1939  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-500 psi	Steam	UV, V
0.75 NPS	1.5 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-500 psi	Steam	UV, V
1-1.5 NPS	2 - 3 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-3100 psi	Steam	UV, V
1-2 NPS	2.5, 3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-3100 psi	Steam	UV, V
1.5-2 NPS	3, 4, 6 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-5000 psi	Steam	UV, V
1.5 NPS	3 NPS	0.865 in <sup>2</sup>	1.05 in	0.262 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.994 in <sup>2</sup>	[H2] 1.125 in	0.281 in	15-3100 psi	Steam	UV, V
2-3 NPS	3, 4, 6 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-5000 psi	Steam	UV, V
2 NPS	4 NPS	1.431 in <sup>2</sup>	[J2] 1.35 in	0.338 in	15-3100 psi	Steam	UV, V
2.5-3 NPS	4, 6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-6000 psi	Steam	UV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-6000 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.476 in	15-3100 psi	Steam	UV, V
3 NPS	6 NPS	3.341 in <sup>2</sup>	[L2] 2.062 in	0.516 in	15-3100 psi	Steam	UV, V
3-4 NPS	6, 8 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-6000 psi	Steam	UV, V
3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.563 in	15-6000 psi	Steam	UV, V
4 NPS	6 NPS	4.341 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-3100 psi	Steam	UV, V

4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.712 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.937 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q2] 3.95 in	0.988 in	15-3100 psi	Steam	UV, V
6 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-3100 psi	Steam	UV, V
6 NPS	10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.239 in	15-3100 psi	Steam	UV, V
8 NPS	10, 12 NPS	26 in <sup>2</sup>	[T] 5.75 in	1.437 in	15-500 psi	Steam	UV, V
8 NPS	12, 14 NPS	28.274 in <sup>2</sup>	6 in	1.5 in	15-2000 psi	Steam	UV, V
10 NPS	14 NPS	44.18 in <sup>2</sup>	7.5 in	1.875 in	15-500 psi	Steam	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	9 in	2.25 in	15-500 psi	Steam	UV, V
14 NPS	18 NPS	86.59 in <sup>2</sup>	10.5 in	2.625 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	95.21 in <sup>2</sup>	11.01 in	2.753 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	114.04 in <sup>2</sup>	12.05 in	3.02 in	15-500 psi	Steam	UV, V
18 NPS	24 NPS	143.14 in <sup>2</sup>	13.5 in	3.375 in	15-500 psi	Steam	UV, V
20 NPS	24 NPS	176.71 in <sup>2</sup>	15 in	3.75 in	15-500 psi	Steam	UV, V

Design Name: H Series (Restricted Lift version of Cert # 15006) NBCert # 15567

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 09/02/2029

#### Design Type

[Safety Valve] H Series (Restricted Lift version of Cert # 15006)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 6, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.08 in	15-500 psi	Steam	UV, V
0.75 NPS	1.5 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.08 in	15-500 psi	Steam	UV, V
1-1.5 NPS	2, 2.5, 3 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.08 in	15-3100 psi	Steam	UV, V
1-2 NPS	2.5, 3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.08 in	15-3100 psi	Steam	UV, V
1.5-2 NPS	3, 4 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.08 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.865 in <sup>2</sup>	1.05 in	0.08 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.994 in <sup>2</sup>	[H2] 1.125 in	0.084 in	15-3100 psi	Steam	UV, V
2-3 NPS	3,4,6 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.096 in	15-5000 psi	Steam	UV, V
2 NPS	4 NPS	1.431 in <sup>2</sup>	[J2] 1.35 in	0.101 in	15-3100 psi	Steam	UV, V
2.5-3 NPS	4, 6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.115 in	15-3100 psi	Steam	UV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.135 in	15-3100 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-3100 psi	Steam	UV, V
3 NPS	6 NPS	3.341 in <sup>2</sup>	[L2] 2.062 in	0.155 in	15-3100 psi	Steam	UV, V
3-4 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.161 in	15-5000 psi	Steam	UV, V

3 NPS	6 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.169 in	15-3100 psi	Steam	UV, V
4 NPS	6 NPS	4.341 in <sup>2</sup>	[N] 2.351 in	0.176 in	15-3100 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.213 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P2] 3 in	0.225 in	15-3100 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q2] 3.95 in	0.296 in	15-3100 psi	Steam	UV, V
6 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	0.338 in	15-1200 psi	Steam	UV, V
6 NPS	10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.371 in	15-3100 psi	Steam	UV, V
8 NPS	10, 12 NPS	26 in <sup>2</sup>	[T] 5.75 in	0.431 in	15-500 psi	Steam	UV, V
8 NPS	12, 14 NPS	28.274 in <sup>2</sup>	6 in	0.45 in	15-2000 psi	Steam	UV, V
10 NPS	14 NPS	44.18 in <sup>2</sup>	7.5 in	0.562 in	15-500 psi	Steam	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	9 in	0.675 in	15-500 psi	Steam	UV, V
14 NPS	18 NPS	86.59 in <sup>2</sup>	10.5 in	0.787 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	95.21 in <sup>2</sup>	11.01 in	0.826 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	114.04 in <sup>2</sup>	12.05 in	0.906 in	15-500 psi	Steam	UV, V
18 NPS	24 NPS	143.14 in <sup>2</sup>	13.5 in	1.012 in	15-500 psi	Steam	UV, V
20 NPS	24 NPS	176.71 in <sup>2</sup>	15 in	1.125 in	15-500 psi	Steam	UV, V

Design Name: HE NBCert # 15039

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	V	06/14/2030

#### Design Type

[Safety Valve] HE  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 15, 1970  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	0.307 in <sup>2</sup>	0.625 in	0.156 in	15-3100 psi	Steam	NV, V
1.5 NPS	2.5 NPS	0.503 in <sup>2</sup>	0.8 in	0.2 in	15-3100 psi	Steam	NV, V
1.5 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-3100 psi	Steam	NV, V
2 NPS	4 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-3100 psi	Steam	NV, V
2.5 NPS	6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.382 in	15-3100 psi	Steam	NV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-3100 psi	Steam	NV, V
3 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-3100 psi	Steam	NV, V
3 NPS	6 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.562 in	15-3100 psi	Steam	NV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	2.85 in	0.712 in	15-3100 psi	Steam	NV, V
4 NPS	6, 8 NPS	7.069 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	NV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.937 in	15-3100 psi	Steam	NV, V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-1500 psi	Steam	NV, V



8 NPS	10, 12, 14 NPS	19.369 in <sup>2</sup>	[R3] 4.966 in	1.242 in	15-3100 psi	Steam	NV, V
8 NPS	10, 12, 14 NPS	21.1 in <sup>2</sup>	[R5] 5.183 in	1.295 in	15-3100 psi	Steam	NV, V
8 NPS	14 NPS	22 in <sup>2</sup>	[R6] 5.295 in	1.324 in	15-3100 psi	Steam	NV, V
10 NPS	16 NPS	36.4 in <sup>2</sup>	[T2] 6.808 in	1.707 in	15-3100 psi	Steam	NV, V

Design Name:	HL, HSL	NBCert #	15589
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 08/22/2029

Design Type
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[Safety Valve] HL, HSL  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on November 3, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	1.5 NPS	0.339 in <sup>2</sup>	[F] 0.657 in	0.164 in	15-725 psi	Steam	UV, V
1.25-2 NPS	1.5 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.21 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.868 in <sup>2</sup>	[H] 1.051 in	0.263 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.327 in <sup>2</sup>	[J] 1.3 in	0.325 in	15-725 psi	Steam	UV, V
2-3 NPS	3-4 NPS	2.046 in <sup>2</sup>	[K] 1.614 in	0.404 in	15-725 psi	Steam	UV, V
2.5-4 NPS	4-6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-725 psi	Steam	UV, V
3 NPS	4-6 NPS	3.955 in <sup>2</sup>	[M] 2.244 in	0.561 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	4.831 in <sup>2</sup>	[N] 2.48 in	0.62 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	7.031 in <sup>2</sup>	[P] 2.992 in	0.748 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[QQ] 3.75 in	0.937 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	12.174 in <sup>2</sup>	[Q] 3.937 in	0.984 in	15-725 psi	Steam	UV, V

Design Name:	JLT-JOS/JLT-JBS/JLT-JDS (Air/Gas & Liquid)	NBCert #	15107
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/11/2028

Design Type
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[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Air/Gas & Liquid)  
Capacity Tests: Sec. UV at Crosby Valve, LLC on July 13, 2022  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless; (alternate medium): 0.656 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV

0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Air	UV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Air	UV
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Air	UV
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Air	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	10/22/2025

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/22/2025

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Liquids) (Restricted lift version of Certification 15095) NBCert # 01393

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 11/24/2027

#### Design Type

[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Liquids) (Restricted lift version of Certification 15095)  
Capacity Tests: Sec. NV, UV, V at unknown lab on October 14, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	UV, V

1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	UV, V

Design Name:	JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512)	NBCert #	01382
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	02/03/2028
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#### Design Type

[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512)  
Capacity Tests: Sec. UV at unknown lab on October 13, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.6949 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/22/2025

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV

1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV



Design Name: JOS-E-RL/JBS-E-RL/JDS-E-RL (Restricted Lift version of cert 15208) NBCert # 01045

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/23/2027

#### Design Type

[Safety Relief Valve] JOS-E-RL/JBS-E-RL/JDS-E-RL (Restricted Lift version of cert 15208)

Capacity Tests: Sec. UV at unknown lab on May 26, 2015

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.865 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Restricted Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-15000 psi	Air	UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.08 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.08 in	15-15000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.08 in	15-15000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.08 in	15-2000 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.08 in	15-15000 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.08 in	15-2000 psi	Steam	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.099 in	15-15000 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.099 in	15-2000 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.127 in	15-10000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.127 in	15-2000 psi	Steam	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.152 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.152 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.18 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.18 in	15-3000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.189 in	15-2000 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.189 in	15-5000 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.213 in	15-2000 psi	Steam	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.213 in	15-5000 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.234 in	15-1480 psi	Steam	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.234 in	15-3000 psi	Air	UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.255 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.255 in	15-2250 psi	Steam	UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.284 in	15-1480 psi	Steam	UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.284 in	15-3000 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.373 in	15-1000 psi	Steam	UV



6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.373 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	0.373 in	15-2250 psi	Air	UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	0.373 in	15-2250 psi	Steam	UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	0.449 in	15-2250 psi	Air	UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	0.449 in	15-2250 psi	Steam	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.373 in	15-1480 psi	Steam	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.373 in	15-3000 psi	Air	UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	0.424 in	15-2250 psi	Air	UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	0.424 in	15-2250 psi	Steam	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.449 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.449 in	15-1480 psi	Steam	UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	0.572 in	15-2250 psi	Air	UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	0.572 in	15-2250 psi	Steam	UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.572 in	15-740 psi	Air	UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.572 in	15-740 psi	Steam	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	0.592 in	15-740 psi	Air	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	0.592 in	15-740 psi	Steam	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	0.731 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	0.731 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	0.933 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	0.933 in	15-325 psi	Steam	UV

Design Name:	JQU - 1.5 (with breaking pin)	NBCert #	15275
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/21/2030

Design Type
[Safety Relief Valve] JQU - 1.5 (with breaking pin)
Capacity Tests: Sec. UV at Crosby Valve, LLC on May 1, 1978
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method
Certified Value: 9.260 SCFM/PSIA
Media - Test: Steam; Certified: Gas
Set Pressure Definition: Pop
Blowdown Characteristics: Fixed
Flow Area Configuration: Nozzle/Full Lift
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	4 NPS	0.849 in <sup>2</sup>	1.04 in	0.26 in	15-375 psi	Air	UV

Design Name:	JQU - 1.5 (without breaking pin)	NBCert #	15286
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/18/2030

### Design Type

[Safety Relief Valve] JQU - 1.5 (without breaking pin)  
Capacity Tests: Sec. UV at Crosby Valve, LLC on May 1, 1978  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 9.430 SCFM/PSIA  
Media - Test: Steam; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	4 NPS	0.849 in <sup>2</sup>	1.04 in	0.26 in	15-375 psi	Air	UV

Design Name: JQU - 4 (with breaking pin) NBCert # 15297

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer UV 06/21/2030

### Design Type

[Safety Relief Valve] JQU - 4 (with breaking pin)  
Capacity Tests: Sec. UV at unknown lab on July 6, 1959  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:39.800 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	6 NPS	3.141 in <sup>2</sup>	2 in	0.5 in	50-375 psi	Air	UV

Design Name: Kunkle 1, 2 NBCert # 36223

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer UV 07/28/2027

### Design Type

[Safety Valve] Kunkle 1, 2  
Capacity Tests: Sec. UV at unknown lab on July 1, 1953  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.823 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, Top NPS	0.049 in <sup>2</sup>	0.75 in	0.029 in	15-250 psi	Air	UV
0.5-0.75 NPS	.75, Top NPS	0.049 in <sup>2</sup>	0.75 in	0.029 in	15-250 psi	Steam	UV
1 NPS	1, Top NPS	0.0844 in <sup>2</sup>	1 in	0.038 in	15-250 psi	Air	UV
1 NPS	1, Top NPS	0.0844 in <sup>2</sup>	1 in	0.038 in	15-250 psi	Steam	UV

Design Name:	Kunkle 189, 363, 389	NBCert #	36043
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/21/2027

#### Design Type

[Safety Relief Valve] Kunkle 189, 363, 389  
Capacity Tests: Sec. UV at unknown lab on April 15, 1958  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.874 Unitless  
Media - ; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.034 in <sup>2</sup>	0.5 in	0.031 in	50-2500 psi	Air	UV

Design Name:	Kunkle 264, 265, 266 & 267	NBCert #	36267
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/28/2027

#### Design Type

[Safety Relief Valve] Kunkle 264, 265, 266 & 267  
Capacity Tests: Sec. UV at unknown lab on July 20, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.766 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-2000 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-3300 psi	Air	UV

Design Name:	Kunkle 30	NBCert #	36335
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/21/2027

#### Design Type

[Safety Relief Valve] Kunkle 30  
Capacity Tests: Sec. UV at unknown lab on December 18, 1989  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.186 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS			0.157 in	0.1 in	60-4000 psi	Air	UV

Design Name: Kunkle 300,600	NBCert # 36076
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 07/28/2027

#### Design Type

[Safety Valve] Kunkle 300,600  
Capacity Tests: Sec. UV, V at unknown lab on February 10, 1961  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Air	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	V
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Air	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	V
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Air	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	V
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	V

Design Name: Kunkle 330. 330S, 333S		NBCert #	36087
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	05/07/2027
Design Type			
[Safety Relief Valve] Kunkle 330. 330S, 333S Capacity Tests: Sec. UV at unknown lab on June 14, 1972 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.026 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS			0.047 in	0.05 in	1000-7500 psi	Air	UV

Design Name: Kunkle 337		NBCert #	36278
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	07/08/2027
Design Type			
[Safety Relief Valve] Kunkle 337 Capacity Tests: Sec. UV at unknown lab on February 22, 1982 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.860 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in²	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in²	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in²	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name: Kunkle 537		NBCert #	36289
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		HV	07/28/2027
Design Type			
[Safety Relief Valve] Kunkle 537 Capacity Tests: Sec. HV at unknown lab on March 29, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.806 Unitless Media - Test: Steam; Certified: Saturated Water Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.533 in <sup>2</sup>	0.824 in	0.33 in	15-160 psi	Steam	HV
1 NPS	1.25 NPS	0.833 in <sup>2</sup>	1.03 in	0.412 in	15-160 psi	Steam	HV
1.5 NPS	2 NPS	1.767 in <sup>2</sup>	1.5 in	0.6 in	15-160 psi	Steam	HV
2 NPS	2.5 NPS	3.142 in <sup>2</sup>	2 in	0.82 in	15-160 psi	Steam	HV

Design Name: Kunkle 541-A/542-A (.295 orifice) NBCert # 36469

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/21/2027

#### Design Type

[Safety Relief Valve] Kunkle 541-A/542-A (.295 orifice)  
Capacity Tests: Sec. UV at unknown lab on December 14, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.068 in <sup>2</sup>	0.295 in	0.126 in	15-200 psi	Air	UV

Design Name: Kunkle 541-C/542-C/548-C (.422 Orifice) NBCert # 36302

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/21/2027

#### Design Type

[Safety Relief Valve] Kunkle 541-C/542-C/548-C (.422 Orifice)  
Capacity Tests: Sec. UV at unknown lab on May 20, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	Side NPS	0.14 in <sup>2</sup>	0.422 in	0.2 in	15-400 psi	Air	UV

Design Name: Kunkle 548-A (.295 Orifice) NBCert # 36290

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/21/2027

## Design Type

[Safety Relief Valve] Kunkle 548-A (.295 Orifice)  
Capacity Tests: Sec. UV at unknown lab on May 20, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.375 NPS	Side NPS	0.068 in <sup>2</sup>	0.295 in	0.126 in	15-400 psi	Air	UV

Design Name: Kunkle 6000, 6252 Series NBCert # 36324

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	06/07/2027

## Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V

2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name: Kunkle 6933, 6934, 6935, 6254

NBCert #

36313

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

HV

05/06/2027

#### Design Type

[Safety Valve] Kunkle 6933, 6934, 6935, 6254  
Capacity Tests: Sec. HV at unknown lab on October 31, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-15 psi	Steam	HV
0.75-1 NPS	1 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-15 psi	Steam	HV
1-1.25 NPS	1.25 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-15 psi	Steam	HV
1.25-1.5 NPS	1.5 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-15 psi	Steam	HV
1.5-2 NPS	2 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-15 psi	Steam	HV
1.5-2.5 NPS	2.5 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-15 psi	Steam	HV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-15 psi	Steam	HV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-15 psi	Steam	HV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-15 psi	Steam	HV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-15 psi	Steam	HV



Design Name: Kunkle 910 to 919		NBCert #	36100
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	05/06/2027
Design Type			
[Safety Relief Valve] Kunkle 910 to 919 Capacity Tests: Sec. UV at unknown lab on May 19, 1969 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)		NBCert #	36111
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV, V	04/22/2027
Design Type			
[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid) Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.710 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V

1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

Design Name:	Kunkle 920, 921, 927, Agco A (High Temp. water)	NBCert #	36098
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer V 07/28/2027

#### Design Type

[Safety Valve] Kunkle 920, 921, 927, Agco A (High Temp. water)  
Capacity Tests: Sec. V at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Forced Flow Steam Generator/High Temp Hot Water (10% BD)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	V

Design Name:	Kunkle Fig. 930	NBCert #	36122
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer HV 05/06/2027

#### Design Type

[Safety Valve] Kunkle Fig. 930  
Capacity Tests: Sec. HV at unknown lab on April 13, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.818 Unitless; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	2.164 in <sup>2</sup>	1.66 in	0.498 in	15-15 psi	Steam	HV
2.5 NPS	2.5 NPS	3.079 in <sup>2</sup>	1.98 in	0.594 in	15-15 psi	Steam	HV
3 NPS	3 NPS	4.753 in <sup>2</sup>	2.46 in	0.738 in	15-15 psi	Steam	HV

Design Name:	PVR-3	NBCert #	15354
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/29/2029

### Design Type

[Safety Relief Valve] PVR-3  
Capacity Tests: Sec. UV at Crosby Valve, LLC on July 14, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:47.130 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	4 NPS	3.757 in <sup>2</sup>	2.187 in	0.8 in	15-125 psi	Air	UV

Design Name: PVR-4 NBCert # 15365

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer UV 01/16/2030

### Design Type

[Safety Relief Valve] PVR-4  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 26, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:87.570 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	5 NPS	7.67 in <sup>2</sup>	3.125 in	1.125 in	15-125 psi	Air	UV

## Emerson LLP (ELP)

060005, Atyrau, Kazakhstan

### This Company Manufactures or Assembles:

Design Name: 900 Series, 7700, SNC NBCert # 15411

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler UV 08/20/2030

### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids)		NBCert #	15095
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	05/31/2030

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV

3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/20/2030

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV

6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/20/2030

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV

4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Emerson Process Management Arabia LTD. (EMR)

Jubail Industrial City, 31961 Saudi Arabia

### This Company Manufactures or Assembles:

Design Name: 243/249/443/449/546/843/849/943/5046/5049/8043/8049 NBCert # 01292

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/06/2027

### Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049  
Capacity Tests: Sec. UV at unknown lab on August 8, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name:	253/259/453/459/853/859/953/959/5059/8053/8059	NBCert #	01304
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	04/06/2027
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#### Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.627 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV



Design Name:	263/269/463/469/566/863/869/963/969/5066/5069	NBCert #	01315
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/06/2027

### Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069  
Capacity Tests: Sec. UV at unknown lab on July 30, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name:	443/449/546/843/849/943/949/5046/5049 (Liquids)	NBCert #	01337
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/07/2027

**Design Type**

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.767 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

04/07/2027

**Design Type**

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.491 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V

4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 463/469/566/863/869/963/969/5066/5069 (Liquids) NBCert # 01348

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/07/2027

### Design Type

[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids)  
Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.712 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name: 900 Series (Liquid), 7700, SNC NBCert # 15499

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/07/2027

### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name:	900 Series, 7700, SNC	NBCert #	15411
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	09/29/2027
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#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name:	JLT-JOS/JLT-JBS/JLT-JDS (Liquids)	NBCert #	15095
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	04/07/2027
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#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V

8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/06/2027

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/ABNBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/06/2027

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV

6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Emerson Process Management LTDA (EMO)

Sorocaba Sao Paulo, 18087-105Brazil

### This Company Manufactures or Assembles:

Design Name:	900 Series (Liquid), 7700, SNC	NBCert #	15499
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/18/2025

### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV



1.5 NPS      2.5 NPS      0.5674 in<sup>2</sup>      [#9] 0.85 in      0.274 in      15-5000 psi      Water      UV, V

Design Name:    900 Series, 7700, SNC

NBCert #

15411

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

10/11/2028

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name:    JLT-JOS/JLT-JBS/JLT-JDS (Liquids)

NBCert #

15095

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

07/18/2025

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV

1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name:	JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB	NBCert #	15208
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/17/2025

### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV

6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

Design Name: Kunkle 910 to 919 NBCert # 36100

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 07/17/2025

#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid) NBCert # 36111

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 07/18/2025

## Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
 Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.710 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

## EMERSON PROCESS MANAGEMENT S.A. DE C.V. (EMP)

Toluca, 50223Mexico

### This Company Manufactures or Assembles:

Design Name: 243/249/443/449/546/843/849/943/5046/5049/8043/8049		NBCert #	01292
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	09/29/2027

## Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049  
 Capacity Tests: Sec. UV at unknown lab on August 8, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV

4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 253/259/453/459/853/859/953/959/5059/8053/8059 NBCert # 01304

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/29/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059

Capacity Tests: Sec. UV at unknown lab on July 31, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.627 Unitless

Media - Test: Air/Gas; Certified: Air, Gas

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Curtain Area

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/30/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)

Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.767 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/29/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.491 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V

6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name:	81, 81P, 83, 84	NBCert #	01089
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/29/2027

#### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name:	900 Series (Liquid), 7700, SNC	NBCert #	15499
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/30/2027

#### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V



0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC NBCert # 15411

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/28/2027

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/30/2027

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/28/2027

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV

6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Emerson Regulator Technologies - Fromex S.A. de C.V. (FCF)

Nameplate Abbreviation: Fromex

Nuevo Laredo, Tamaulipas, 88275Mexico

### This Company Manufactures or Assembles:

Design Name: 2" 63EGLP		NBCert # 22116	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	07/08/2027
Design Type			
[Safety Relief Valve] 2" 63EGLP Capacity Tests: Sec. UV at Anderson Greenwood Crosby on April 16, 2021 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:31.780 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Regulator Technologies - Fromex S.A. de C.V. {FCF}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	4.441 in <sup>2</sup>	2.378 in	0.793 in	85-375 psi	Air	UV

Design Name: 4" 63EGLP		NBCert # 22127
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/08/2025
Design Type		
[Safety Relief Valve] 4" 63EGLP Capacity Tests: Sec. UV at Anderson Greenwood Crosby on May 11, 2018 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:111.78 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Regulator Technologies - Fromex S.A. de C.V. {FCF}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	4 NPS	9.96 in <sup>2</sup>	4.38 in	2 in	85-375 psi	Air	UV

Design Name: C776		NBCert # 36425
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/08/2027
Design Type		
[Safety Relief Valve] C776 Capacity Tests: Sec. UV at Crosby Valve, LLC on July 15, 2002 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.790 Unitless Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Regulator Technologies - Fromex S.A. de C.V. {FCF}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.169 in <sup>2</sup>	0.465 in	0.116 in	15-600 psi	Air	UV
1 NPS	1.25 NPS	0.34 in <sup>2</sup>	0.658 in	0.164 in	15-500 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.486 in <sup>2</sup>	0.787 in	0.197 in	15-600 psi	Air	UV
1.25 NPS	1.5 NPS	0.645 in <sup>2</sup>	0.906 in	0.227 in	15-500 psi	Air	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.286 in	15-500 psi	Air	UV
2-2.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.364 in	15-500 psi	Air	UV

Design Name: Cash C600		NBCert # 36492
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2028

### Design Type

[Safety Valve] Cash C600  
Capacity Tests: Sec. UV at unknown lab on March 11, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.792 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Regulator Technologies - Fromex S.A. de C.V. {FCF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS		0.065 in <sup>2</sup>	0.289 in	0.072 in	90-600 psi	Air	UV
0.5625 in		0.065 in <sup>2</sup>	0.289 in	0.072 in	90-600 psi	Air	UV

Design Name: H733/H833/H733F3/H833F3 NBCert # 22295

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

07/01/2025

### Design Type

[Safety Relief Valve] H733/H833/H733F3/H833F3  
Capacity Tests: Sec. UV at National Board Testing Lab on April 23, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 29.770 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Regulator Technologies - Fromex S.A. de C.V. {FCF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS		2.463 in <sup>2</sup>	1.84 in		100-400 psi	Air	UV

## Engineered Controls International, LLC (REG)

Nameplate Abbreviation: ECII

Elon, NC 27244United States

### This Company Manufactures or Assembles:

Design Name: 3131 (20% OP) NBCert # 46033

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

04/28/2026

### Design Type

[Safety Relief Valve] 3131 (20% OP)  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on February 27, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 6.161 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Engineered Controls International, LLC {REG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	Top NPS	0.423 in²	0.734 in		225-290 psi	Air	UV
Design Name: 3135 (20% OP)			NBCert #		46358		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		01/06/2029		
Design Type							
[Safety Relief Valve] 3135 (20% OP) Capacity Tests: Sec. UV at Engineered Controls International, LLC on October 22, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:5343.0 SCFM; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	Top NPS	1.055 in²	1.159 in		250 psi	Air	UV
Design Name: 6555 Series			NBCert #		46314		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		07/25/2028		
Design Type							
[Safety Relief Valve] 6555 Series Capacity Tests: Sec. UV at Engineered Controls International, LLC on December 5, 2005 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:700.00 SCFM; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	Top NPS	0.255 in²	0.57 in	0.143 in	250 psi	Air	UV
Design Name: 7534 (20% OP)			NBCert #		46099		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		02/03/2030		
Design Type							
[Safety Relief Valve] 7534 (20% OP) Capacity Tests: Sec. UV at unknown lab on February 9, 1981 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:33.120 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.472 in²	1.843 in		250-250 psi	Air	UV
Design Name: 7583 (20% OP)			NBCert #		46101		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			05/22/2029	
Design Type							
[Safety Relief Valve] 7583 (20% OP) Capacity Tests: Sec. UV at unknown lab on January 21, 1981 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.740 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	Top NPS	0.374 in²	0.795 in	0.199 in	250-250 psi	Air	UV
Design Name: 8543 (20% OP)			NBCert #		46156		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			02/03/2027	
Design Type							
[Safety Relief Valve] 8543 (20% OP) Capacity Tests: Sec. UV at unknown lab on May 24, 1982 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 4.450 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS		0.304 in²	0.65 in	0.163 in	225-312 psi	Air	UV
Design Name: 8544 (20% OP)			NBCert #		46167		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			11/17/2026	
Design Type							
[Safety Relief Valve] 8544 (20% OP) Capacity Tests: Sec. UV at unknown lab on December 20, 1985 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.979 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	Top NPS	0.228 in²	0.57 in	0.143 in	229-386 psi	Air	UV
Design Name: 8546G (20% OP)			NBCert #		46347		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			11/20/2025	
Design Type							
[Safety Relief Valve] 8546G (20% OP) Capacity Tests: Sec. UV at Engineered Controls International, LLC on July 18, 2008 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:651.00 SCFM; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.159 in²	0.45 in		250 psi	Air	UV
Design Name: 8546T (20% OP)			NBCert #		46336		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			11/20/2025	
Design Type							
[Safety Relief Valve] 8546T (20% OP) Capacity Tests: Sec. UV at Engineered Controls International, LLC on July 18, 2008 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:792.00 SCFM; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.159 in²	0.45 in		312 psi	Air	UV
Design Name: 8684 (20% OP)			NBCert #		46178		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			07/25/2028	
Design Type							
[Safety Relief Valve] 8684 (20% OP) Capacity Tests: Sec. UV at unknown lab on January 22, 1981 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 8.150 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	Top NPS	0.593 in²	0.921 in	0.305 in	250-250 psi	Air	UV
Design Name: 8685 (20% OP)			NBCert #		46189		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			04/23/2029	
Design Type							
[Safety Relief Valve] 8685 (20% OP) Capacity Tests: Sec. UV at unknown lab on January 22, 1981 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:12.820 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS		1.06 in²	1.218 in	0.305 in	250-250 psi	Air	UV
Design Name: A3149 (20% OP) (200-358psi)			NBCert #		46077		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			02/03/2030	
Design Type							
[Safety Relief Valve] A3149 (20% OP) (200-358psi) Capacity Tests: Sec. UV at unknown lab on February 9, 1981 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:29.086 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5 NPS		2.11 in²	1.641 in	0.41 in	200-358 psi	Air	UV
Design Name: A8434N			NBCert #		46123		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			04/23/2029	
Design Type							
[Safety Relief Valve] A8434N Capacity Tests: Sec. UV at REGO CO on January 22, 1983 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:3659.0 SCFM; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	Top NPS	0.7324 in²	1.015 in	0.254 in	265-0 psi	Air	UV
Design Name: AA3130A250			NBCert #		46000		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			10/04/2029	
Design Type							
[Safety Relief Valve] AA3130A250 Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on February 9, 1981 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:1706.0 SCFM Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	Top NPS	0.423 in²	0.734 in	0.184 in	250-0 psi	Air	UV
Design Name: AA3130UA250			NBCert #		46011		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			07/25/2028	
Design Type							
[Safety Relief Valve] AA3130UA250 Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on August 30, 1978 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:1838.0 SCFM Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	Top NPS	0.423 in²	0.734 in	0.184 in	250-0 psi	Air	UV
Design Name: AA3130UA265			NBCert #		46022		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			05/22/2029	
Design Type							
[Safety Relief Valve] AA3130UA265 Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on August 30, 1978 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:1912.0 SCFM; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	Top NPS	0.423 in²	0.734 in	0.184 in	265-0 psi	Air	UV
Design Name: AA3135 (20% OP)NBCert #46268							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			04/23/2029	
Design Type							
[Safety Relief Valve] AA3135 (20% OP) Capacity Tests: Sec. UV at Engineered Controls International, LLC on October 13, 2000 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:19.250 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS		1.196 in²	1.234 in	0.309 in	225-265 psi	Air	UV
Design Name: AA3135A150NBCert #46055							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			05/23/2029	
Design Type							
[Safety Relief Valve] AA3135A150 Capacity Tests: Sec. UV at REGO CO on February 20, 1980 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:2969.0 SCFM Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	Top NPS	1.196 in²	1.234 in	0.309 in	150-0 psi	Air	UV
Design Name: AA3135A300NBCert #46066							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			04/23/2029	
Design Type							
[Safety Relief Valve] AA3135A300 Capacity Tests: Sec. UV at REGO CO on February 20, 1980 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:5733.0 SCFM Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	Top NPS	1.055 in²	1.159 in	0.288 in	300-0 psi	Air	UV
Design Name: AR4104A, AR5104A, AR4104B, AR5104B NBCert # 46392							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			11/13/2025	
Design Type							
[Safety Relief Valve] AR4104A, AR5104A, AR4104B, AR5104B Capacity Tests: Sec. UV at Engineered Controls International, LLC on June 6, 2013 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.400 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	1 NPS	0.135 in²	0.415 in	0.104 in	75-500 psi	Air	UV
Design Name: AR4106A, AR5106A, AR4106B, AR5106B NBCert # 46471							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			06/26/2030	
Design Type							
[Safety Relief Valve] AR4106A, AR5106A, AR4106B, AR5106B HolderDesignation: Capacity Tests: Sec. UV at National Board Testing Lab on January 31, 2024 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.080 SCFM/PSIA; (alternate medium): 0.000 Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG} Comments: Current certicaiton is effective for date codes after 3C24. This certification replaced old cert number 46369.							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.135 in²	0.415 in	0.104 in	75-400 psi	Air	UV
Design Name: AR4112A, AR5112A, AR4112B, AR5112B NBCert # 46381							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			03/13/2030	
Design Type							
[Safety Relief Valve] AR4112A, AR5112A, AR4112B, AR5112B Capacity Tests: Sec. UV at Engineered Controls International, LLC on February 7, 2012 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 7.860 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.65 in²	0.91 in	0.248 in	80-425 psi	Air	UV
Design Name: B-19434B & C-19434B 325-375NBCert #46505							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			06/26/2030	
Design Type							
[Safety Relief Valve] B-19434B & C-19434B 325-375 HolderDesignation: Capacity Tests: Sec. UV at National Board Testing Lab on March 11, 2024 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.620 SCFM/PSIA; (alternate medium): 0.000 Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG} Comments: Current certificaion is effective for date codes after 7E23. This certification replaced old cert number 46325.							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.118 in²	0.387 in	0 in	350-375 psi	Air	UV
Design Name: NG9008MANBCert #46437							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			07/25/2028	
Design Type							
[Safety Relief Valve] NG9008MA Capacity Tests: Sec. UV at National Board Testing Lab on July 25, 2022 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.892 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Engineered Controls International, LLC {REG}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 in	0.375 NPS	0.062 in²	0.281 in	0.07 in	200-460 psi	Air	UV
Design Name: PRV19430 , PRV29430NBCert #46279							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			08/27/2026	

**Design Type**

[Safety Relief Valve] PRV19430 , PRV29430  
Capacity Tests: Sec. UV at Engineered Controls International, LLC on February 11, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.692 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Engineered Controls International, LLC {REG}  
Comments: Date codes prior to 12D20 had a slope of 0.783 scfm.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5625 NPS		0.062 in <sup>2</sup>	0.281 in		90-600 psi	Air	UV

Design Name: PRV19430, PRV29430 (Low Pressure) NBCert # 46415

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

11/14/2029

**Design Type**

[Safety Relief Valve] PRV19430, PRV29430 (Low Pressure)  
Capacity Tests: Sec. UV at National Board Testing Lab on October 16, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.750 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Engineered Controls International, LLC {REG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5625 NPS		0.062 in <sup>2</sup>	0.281 in		15-89 psi	Air	UV

Design Name: PRV19534K NBCert # 46426

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

06/10/2026

**Design Type**

[Safety Relief Valve] PRV19534K  
Capacity Tests: Sec. UV at National Board Testing Lab on July 25, 2019  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.805 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Engineered Controls International, LLC {REG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.056 in <sup>2</sup>	0.266 in	0.07 in	800-1000 psi	Air	UV

# Equipment and Controls, Inc. (ICE)

Nameplate Abbreviation: ECI

Lawrence, PA 15055United States

## This Company Manufactures or Assembles:

Design Name:	243/249/443/449/546/843/849/943/5046/5049/8043/8049	NBCert #	01292
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/24/2029

### Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049  
 Capacity Tests: Sec. UV at unknown lab on August 8, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name:	253/259/453/459/853/859/953/959/5059/8053/8059	NBCert #	01304
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/24/2029



## Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.627 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/506  
6/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/24/2029

## Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069  
Capacity Tests: Sec. UV at unknown lab on July 30, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV

8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids)				NBCert # 01337	
Manufacturer/Assembler		Designators			Expiration Date
Assembler		UV			07/24/2029

Design Type							
[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)							
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997							
Method of Establishing Relieving Capacity: Flow Capacity, K							
Certified Value: 0.767 Unitless							
Media - Test: Liquid; Certified: Liquid							
Set Pressure Definition: First Steady Stream							
Blowdown Characteristics: Fixed							
Flow Area Configuration: Nozzle/Full Lift							
Designed by: Emerson Automation Solutions Final Control US LP {AGC}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids)				NBCert # 01326	
Manufacturer/Assembler		Designators			Expiration Date
Assembler		UV			07/24/2029

Design Type							
[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)							
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997							
Method of Establishing Relieving Capacity: Flow Capacity, K							
Certified Value: 0.491 Unitless							
Media - Test: Liquid; Certified: Liquid							
Set Pressure Definition: First Steady Stream							
Blowdown Characteristics: Fixed							
Flow Area Configuration: Curtain Area							
Designed by: Emerson Automation Solutions Final Control US LP {AGC}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name:	463/469/566/863/869/963/969/5066/5069 (Liquids)	NBCert #	01348
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	07/24/2029
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#### Design Type

[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids)  
Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.712 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV

8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name: 81, 81P, 83, 84 NBCert # 01089

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/24/2029

#### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 900 Series (Liquid), 7700, SNC NBCert # 15499

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/25/2029

#### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV

0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC

NBCert #

15411

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

07/24/2029

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids)

NBCert #

15095

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

07/24/2029

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/24/2029

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV

6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## EXION ASIA PTE LTD (OSA)

Singapore, 627635Singapore

### This Company Manufactures or Assembles:

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)			NBCert #	18784		
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			06/26/2030	
Design Type							
[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.670 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in²	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in²	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V



1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

03/26/2030

Design Type
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[Safety Relief Valve] 1900, 1900-30, 1900-35

Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.855 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV

3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name:	19000 Series	NBCert #	18706
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/06/2030

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV

0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/10/2027

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV

1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 NBCert # 18144

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/26/2030

Design Type
[Safety Relief Valve] 1900D-2, 1900-30D-2 Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/26/2030

Design Type
[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.256 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/26/2030

**Design Type**

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

03/26/2030

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

05/26/2027

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 3900 (39PV, 39MV pilots)	NBCert # 18447
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	05/26/2027
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/26/2027

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.743 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV



8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Experitec, Inc. (EXP)

St. Peters, MO 63376United States

### This Company Manufactures or Assembles:

Design Name: 243/249/443/449/546/843/849/943/5046/5049/8043/8049		NBCert #	01292
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	04/05/2030
Design Type			
[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049			
Capacity Tests: Sec. UV at unknown lab on August 8, 1997			
Method of Establishing Relieving Capacity: Flow Capacity, K			
Certified Value: 0.878 Unitless			
Media - Test: Air/Gas; Certified: Air, Gas, Steam			
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge			
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot			
Flow Area Configuration: Nozzle/Full Lift			
Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name:	253/259/453/459/853/859/953/959/5059/8053/8059	NBCert #	01304
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	04/05/2030	

## Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.627 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/506  
6/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/05/2030

## Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069  
Capacity Tests: Sec. UV at unknown lab on July 30, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV

8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name:	81, 81P, 83, 84	NBCert #	01089
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/05/2030

Design Type
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[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name:	900 Series (Liquid), 7700, SNC	NBCert #	15499
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/05/2030

**Design Type**

[Relief Valve] 900 Series (Liquid), 7700, SNC  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.661 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC

NBCert #

15411

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

04/05/2030

**Design Type**

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV

1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/05/2030

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V

4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/05/2030

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV

3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## F. H. Gaskins Co., Inc. (FHG)

Norfolk, VA 23504United States

### This Company Manufactures or Assembles:

Design Name: 1541, 1543, 1541-3, 1543-3		NBCert # 18032
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	12/06/2028

## Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1811, 1511

NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	12/06/2028



## Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30 1900-35 LA & DALA  
(Liquids)

NBCert # 18784

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	11/15/2029

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V

1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/22/2029

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV

3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/01/2028

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV

0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900-DM	NBCert #	19066
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 12/14/2029

#### Design Type

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV

6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/26/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV

2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV

10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

<b>F.W. Webb Company (STP)</b>	<b>Nameplate Abbreviation: F.W. Webb Co</b>
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Buffalo, NY 14215United States

**This Company Manufactures or Assembles:**

Design Name: 119 Series	NBCert # 11361
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	10/12/2028

**Design Type**

[Safety Valve] 119 Series  
Capacity Tests: Sec. UV, V at National Board Testing Lab on March 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Air	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	NV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	V
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Air	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	V
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Air	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	UV

6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	V
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Air	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	V

Design Name:	19 Series	NBCert #	11282
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 10/12/2028

#### Design Type

[Safety Valve] 19 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 27, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.826 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Air	UV
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Steam	UV, V

Design Name:	500 Series	NBCert #	11462
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/12/2028

#### Design Type

[Safety Valve] 500 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on June 12, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.861 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Air	UV
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Steam	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Steam	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Air	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Steam	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Air	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Steam	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Air	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Steam	UV

Design Name: 500 Series (Liquids)		NBCert # 11473
Manufacturer/Assembler	Designators	Expiration Date

Assembler UV 10/12/2028

Design Type

[Safety Relief Valve] 500 Series (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on February 25, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.689 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-1000 psi	Water	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-1000 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-1000 psi	Water	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-1000 psi	Water	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-1000 psi	Water	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-1000 psi	Water	UV

F.W. Webb Process Controls Division (SEV)

Nameplate Abbreviation: FW WEBB

Winslow, ME 04901United States

This Company Manufactures or Assembles:

Design Name:	119 Series	NBCert #	11361
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	12/13/2025

### Design Type

[Safety Valve] 119 Series  
Capacity Tests: Sec. UV, V at National Board Testing Lab on March 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Air	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	NV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	V
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Air	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	V
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Air	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	V
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Air	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	V

Design Name:	19 Series	NBCert #	11282
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	01/14/2026

## Design Type

[Safety Valve] 19 Series  
 Capacity Tests: Sec. UV, V at unknown lab on March 27, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.826 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Air	UV
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Steam	UV, V

Design Name: Kunkle 6000, 6252 Series NBCert # 36324

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	05/11/2026

## Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
 Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV

1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name:	Kunkle 910 to 919	NBCert #	36100
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/11/2026

### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
 Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)		NBCert #	36111
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	05/11/2026

#### Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

**Farris Brasil Industria de Valvulas Ltda. (FBV)**

Nameplate Abbreviation: Farris Brasil

Sao Carlos-SP, Brazil

**This Company Manufactures or Assembles:**

Design Name: 2400		NBCert # 57451	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	06/09/2027
Design Type			
[Safety Relief Valve] 2400 Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on August 28, 2019 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.817 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75-1 NPS	0.049 in <sup>2</sup>	[B] 0.25 in	0.08 in	20-2000 psi	Air	UV
0.5-1 NPS	1-2 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.12 in	20-1410 psi	Air	UV
0.75-1 NPS	1-2 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.175 in	20-600 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.295 in	20-4000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.365 in	20-3000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.435 in	20-2500 psi	Air	UV

Design Name: 2600 & 2600S		NBCert # 57057	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/05/2026
Design Type			
[Safety Relief Valve] 2600 & 2600S Capacity Tests: Sec. UV at unknown lab on June 11, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV

2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/05/2026

## Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV



Design Name: 2600L (Liquids)				NBCert # 57068			
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		11/05/2026		
Design Type							
[Relief Valve] 2600L (Liquids) Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.652 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in²	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in²	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in²	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in²	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in²	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in²	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in²	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in²	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in²	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in²	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S		NBCert # 57237
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/05/2026
Design Type		
<p>[Safety Relief Valve] 2700, 2700S, 3700, 3700S Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	11/05/2026
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#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800	NBCert # 57024
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	11/05/2026
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV

8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800FP NBCert # 57035

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 11/05/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 11/05/2026

## Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

## Farris Engineering (FEE)

Corby, NN17 5XZUnited Kingdom

### This Company Manufactures or Assembles:

Design Name: 2400		NBCert # 57451			
Manufacturer/Assembler		Designators		Expiration Date	
Manufacturer		UV		10/24/2028	

## Design Type

[Safety Relief Valve] 2400  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on August 28, 2019  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.817 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75-1 NPS	0.049 in <sup>2</sup>	[B] 0.25 in	0.08 in	20-2000 psi	Air	UV
0.5-1 NPS	1-2 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.12 in	20-1410 psi	Air	UV
0.75-1 NPS	1-2 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.175 in	20-600 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.295 in	20-4000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.365 in	20-3000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.435 in	20-2500 psi	Air	UV

Design Name: 2600 & 2600S

NBCert # 57057

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/13/2025

#### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV

4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/13/2025

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV

1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids)	NBCert # 57068
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/13/2025

### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V



3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S NBCert # 57237

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/13/2025

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/13/2025

#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name:	3800	NBCert #	57024
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/27/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV

1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800FP

NBCert #

57035

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

08/13/2025

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.801 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (3): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV

2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/27/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV

10 NPS      14 NPS      49.02 in²      [V] 7.9 in      2.94 in      15-1400 psi      Water      UV

Farris Engineering Division of Curtiss-Wright Flow Control (UK) Ltd.  
(FED)

Nameplate Abbreviation: Farris  
Engineering Div. of Curtiss-Wright F.C.  
UK LTD.

Northants, NN17 4AZUnited Kingdom

This Company Manufactures or Assembles:

Design Name: 2400		NBCert # 57451	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	02/28/2030
Design Type			
[Safety Relief Valve] 2400 Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on August 28, 2019 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.817 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75-1 NPS	0.049 in²	[B] 0.25 in	0.08 in	20-2000 psi	Air	UV
0.5-1 NPS	1-2 NPS	0.11 in²	[D] 0.375 in	0.12 in	20-1410 psi	Air	UV
0.75-1 NPS	1-2 NPS	0.196 in²	[E] 0.5 in	0.175 in	20-600 psi	Air	UV
1.5 NPS	2 NPS	0.307 in²	[F] 0.625 in	0.295 in	20-4000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in²	[G] 0.8 in	0.365 in	20-3000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in²	[H] 1 in	0.435 in	20-2500 psi	Air	UV

Design Name: 2600 & 2600S		NBCert # 57057	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	02/28/2030
Design Type			
[Safety Relief Valve] 2600 & 2600S Capacity Tests: Sec. UV at unknown lab on June 11, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV

1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name:	2600 Series Restricted Lift version of Cert Number 57057	NBCert #	57406
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	02/28/2030
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#### Design Type

[Safety Relief Valve] 2600 Series Restricted Lift version of Cert Number 57057  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 10, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Steam	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Steam	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Steam	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Air	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Steam	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Air	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Steam	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Air	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Steam	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Air	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Steam	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Air	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Steam	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Air	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Steam	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Air	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Steam	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Air	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Steam	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Air	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Steam	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Air	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Steam	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Air	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Steam	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Air	UV

8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Steam	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Air	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Steam	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Air	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Steam	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Air	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Steam	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Air	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Steam	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Air	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Steam	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Air	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

02/28/2030

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV



4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Air & Steam) Series Restricted Lift version of Cert Number 57260 NBCert # 57439

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/28/2030

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam) Series Restricted Lift version of Cert Number 57260  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 6, 2018  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-2900 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.089 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.089 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.111 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.111 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.142 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.142 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.169 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.169 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.211 in	15-2900 psi	Steam	UV

3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.211 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.237 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.237 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.26 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.26 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.315 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.315 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.415 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.415 in	15-2000 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	0.5 in	15-1500 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	0.5 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	0.638 in	15-1000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	0.638 in	15-1000 psi	Steam	UV
8 NPS	10 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	0.665 in	15-300 psi	Air	UV
8 NPS	10 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	0.665 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids)	NBCert # 57068
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/28/2030

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2600L (Liquids) Series Restricted Lift version of Cert Number 57068.	NBCert #	57417
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/28/2030

Design Type
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[Safety Relief Valve] 2600L (Liquids) Series Restricted Lift version of Cert Number 57068.  
Capacity Tests: Sec. UV, V at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on January 23, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Water	UV, V
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-6000 psi	Water	UV, V
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-5000 psi	Water	UV, V
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.098 in	15-3600 psi	Water	UV, V
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.122 in	15-2750 psi	Water	UV, V
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.156 in	15-2700 psi	Water	UV, V
3 in	4, 6 in	2.041 in <sup>2</sup>	[K] 1.612 in	0.187 in	15-2200 psi	Water	UV, V
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.232 in	15-1500 psi	Water	UV, V
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.261 in	15-1100 psi	Water	UV, V
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.287 in	15-1000 psi	Water	UV, V
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.348 in	15-1000 psi	Water	UV, V
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.458 in	15-900 psi	Water	UV, V
6-8 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.551 in	15-600 psi	Water	UV, V
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.702 in	15-300 psi	Water	UV, V
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.741 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/28/2030

Design Type
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[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	02/28/2030
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#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800	NBCert # 57024
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	02/28/2030
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV

8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800FP NBCert # 57035

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/28/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/28/2030

**Design Type**

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

**FDC Co., Ltd. (FDC)**

Nameplate Abbreviation: FDC

Gyeongsangnam-do,, Republic of Korea

**This Company Manufactures or Assembles:**

Design Name:	KSRBKH	NBCert #	02260
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UD	10/13/2026	

**Design Type**

[Rupture Disk Device] KSRBKH  
HolderDesignation: BFS  
Capacity Tests: Sec. UD at National Board Testing Lab on November 20, 2019  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 3.540 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: FDC Co., Ltd. {FDC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.46 in <sup>2</sup>			116-1460 psi		UD
1 NPS		0.78 in <sup>2</sup>			75-1460 psi		UD
1.5 NPS		1.7 in <sup>2</sup>			58-1460 psi		UD
10 NPS		68.5 in <sup>2</sup>			7-300 psi		UD
12 NPS		101 in <sup>2</sup>			7-240 psi		UD
14 NPS		133 in <sup>2</sup>			7-150 psi		UD
16 NPS		172 in <sup>2</sup>			7-150 psi		UD
18 NPS		223.62 in <sup>2</sup>			7-150 psi		UD
2 NPS		3.3 in <sup>2</sup>			29-1460 psi		UD
2.5 NPS		4.75 in <sup>2</sup>			18.5-880 psi		UD
20 NPS		277.91 in <sup>2</sup>			7-150 psi		UD
24 NPS		401.93 in <sup>2</sup>			7-150 psi		UD
26 NPS		476.14 in <sup>2</sup>			7-100 psi		UD
28 NPS		556.63 in <sup>2</sup>			7-100 psi		UD
3 NPS		7.35 in <sup>2</sup>			16-880 psi		UD
30 NPS		643.41 in <sup>2</sup>			7-80 psi		UD
32 NPS		736.47 in <sup>2</sup>			7-80 psi		UD
34 NPS		835.81 in <sup>2</sup>			7-80 psi		UD
36 NPS		934.6 in <sup>2</sup>			7-80 psi		UD
38 NPS		998.24 in <sup>2</sup>			7-80 psi		UD
4 NPS		12.4 in <sup>2</sup>			9.2-730 psi		UD
40 NPS		1130.35 in <sup>2</sup>			7-80 psi		UD
5 NPS		18.63 in <sup>2</sup>			8.7-730 psi		UD
6 NPS		27.75 in <sup>2</sup>			7.5-1070 psi		UD
8 NPS		43.84 in <sup>2</sup>			7.5-440 psi		UD

Design Name: KSRC	NBCert # 00695
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	01/04/2030
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#### Design Type

[Rupture Disk Device] KSRC  
HolderDesignation: SS  
Capacity Tests: Sec. UD at National Board Testing Lab on March 30, 2016  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.750 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: FDC Co., Ltd. {FDC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.48 in <sup>2</sup>			30-4640 psi		UD
1 NPS		0.66 in <sup>2</sup>			30-4640 psi		UD



1.5 NPS	1.69 in <sup>2</sup>	23-2900 psi	UD
10 NPS	73.56 in <sup>2</sup>	6-900 psi	UD
12 NPS	105.8 in <sup>2</sup>	6-720 psi	UD
14 NPS	133.82 in <sup>2</sup>	4-720 psi	UD
16 NPS	179.3 in <sup>2</sup>	4-720 psi	UD
18 NPS	210.87 in <sup>2</sup>	4-720 psi	UD
2 NPS	3.04 in <sup>2</sup>	30-2900 psi	UD
2.5 NPS	4.77 in <sup>2</sup>	26-2770 psi	UD
20 NPS	271.16 in <sup>2</sup>	3.5-580 psi	UD
24 NPS	398.24 in <sup>2</sup>	4-580 psi	UD
26 NPS	500 in <sup>2</sup>	4-170 psi	UD
28 NPS	583 in <sup>2</sup>	4-170 psi	UD
3 NPS	7.09 in <sup>2</sup>	20-2770 psi	UD
30 NPS	671 in <sup>2</sup>	4-170 psi	UD
32 NPS	766 in <sup>2</sup>	4-170 psi	UD
36 NPS	975 in <sup>2</sup>	4-170 psi	UD
4 NPS	11.41 in <sup>2</sup>	14.5-2480 psi	UD
40 NPS	1209 in <sup>2</sup>	4-170 psi	UD
42 NPS	1336 in <sup>2</sup>	4-170 psi	UD
44 NPS	1469 in <sup>2</sup>	4-170 psi	UD
5 NPS	15.27 in <sup>2</sup>	14-2480 psi	UD
6 NPS	25.36 in <sup>2</sup>	12-2390 psi	UD
8 NPS	46.09 in <sup>2</sup>	8-1750 psi	UD

Design Name: KSRO	NBCert # 01539
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/17/2030

#### Design Type

[Rupture Disk Device] KSRO  
HolderDesignation: N/A  
Capacity Tests: Sec. UD at National Board Testing Lab on February 14, 2018  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.490 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: FDC Co., Ltd. {FDC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.3 in <sup>2</sup>			50-150 psi		UD
0.75 NPS		0.52 in <sup>2</sup>			33-150 psi		UD
1 NPS		0.84 in <sup>2</sup>			15-150 psi		UD
1.5 NPS		1.98 in <sup>2</sup>			15-150 psi		UD
10 NPS		73.89 in <sup>2</sup>			1-60 psi		UD
12 NPS		106.4 in <sup>2</sup>			1-60 psi		UD

14 NPS	133.92 in <sup>2</sup>	1-60 psi	UD
16 NPS	177.4 in <sup>2</sup>	1-60 psi	UD
18 NPS	226.98 in <sup>2</sup>	1-60 psi	UD
2 NPS	3.26 in <sup>2</sup>	12-150 psi	UD
2.5 NPS	4.65 in <sup>2</sup>	8-150 psi	UD
20 NPS	282.66 in <sup>2</sup>	1-60 psi	UD
22 NPS	344.75 in <sup>2</sup>	1-60 psi	UD
24 NPS	412.33 in <sup>2</sup>	1-60 psi	UD
26 NPS	486.32 in <sup>2</sup>	1-40 psi	UD
28 NPS	566.41 in <sup>2</sup>	1-40 psi	UD
3 NPS	7.18 in <sup>2</sup>	2-150 psi	UD
30 NPS	652.6 in <sup>2</sup>	1-40 psi	UD
32 NPS	744.89 in <sup>2</sup>	1-40 psi	UD
34 NPS	843.29 in <sup>2</sup>	1-40 psi	UD
36 NPS	947.79 in <sup>2</sup>	1-40 psi	UD
38 NPS	1066 in <sup>2</sup>	1-40 psi	UD
4 NPS	11.82 in <sup>2</sup>	2-150 psi	UD
40 NPS	1175.09 in <sup>2</sup>	1-40 psi	UD
42 NPS	1301.86 in <sup>2</sup>	1-40 psi	UD
44 NPS	1430.54 in <sup>2</sup>	1-40 psi	UD
46 NPS	1561.81 in <sup>2</sup>	1-40 psi	UD
48 NPS	1702.47 in <sup>2</sup>	1-40 psi	UD
6 NPS	26.6 in <sup>2</sup>	1-100 psi	UD
8 NPS	47.45 in <sup>2</sup>	1-100 psi	UD

Design Name: KRSR

NBCert # 00943

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UD

08/18/2028

#### Design Type

[Rupture Disk Device] KRSR  
 HolderDesignation: FS, FS(SP)  
 Capacity Tests: Sec. UD at National Board Testing Lab on March 30, 2016  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.680 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: FDC Co., Ltd. {FDC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.3 in <sup>2</sup>			190-1460 psi		UD
0.75 NPS		0.53 in <sup>2</sup>			80-1460 psi		UD
1 NPS		0.86 in <sup>2</sup>			80-1460 psi		UD
1.5 NPS		2.03 in <sup>2</sup>			34-1460 psi		UD
10 NPS		63.87 in <sup>2</sup>			28-300 psi		UD

12 NPS	102.78 in <sup>2</sup>	28-240 psi	UD
14 NPS	137.92 in <sup>2</sup>	28-150 psi	UD
16 NPS	176.41 in <sup>2</sup>	28-150 psi	UD
18 NPS	221.57 in <sup>2</sup>	28-150 psi	UD
2 NPS	3.17 in <sup>2</sup>	40-1460 psi	UD
2.5 NPS	4.77 in <sup>2</sup>	40-880 psi	UD
20 NPS	272.62 in <sup>2</sup>	28-150 psi	UD
24 NPS	393.13 in <sup>2</sup>	28-150 psi	UD
26 NPS	500 in <sup>2</sup>	20-100 psi	UD
28 NPS	583 in <sup>2</sup>	20-100 psi	UD
3 NPS	7.38 in <sup>2</sup>	28-880 psi	UD
30 NPS	671 in <sup>2</sup>	15-80 psi	UD
32 NPS	766 in <sup>2</sup>	15-80 psi	UD
4 NPS	11.61 in <sup>2</sup>	28-730 psi	UD
5 NPS	19.55 in <sup>2</sup>	28-730 psi	UD
6 NPS	28.71 in <sup>2</sup>	28-1070 psi	UD
8 NPS	49.23 in <sup>2</sup>	28-440 psi	UD

Design Name: KRSR(C)

NBCert #

01528

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/17/2030

#### Design Type

[Rupture Disk Device] KRSR(C)

HolderDesignation: FS

Capacity Tests: Sec. UD at National Board Testing Lab on November 17, 2017

Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg

Certified Value: 0.590 Unitless

Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)

Set Pressure Definition: Burst Pressure

Flow Area Configuration: MNFA

Designed by: FDC Co., Ltd. {FDC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.3 in <sup>2</sup>			65-2160 psi		UD
0.75 NPS		0.53 in <sup>2</sup>			43.5-2160 psi		UD
1 NPS		0.86 in <sup>2</sup>			43.5-2160 psi		UD
1.5 NPS		1.86 in <sup>2</sup>			20-2160 psi		UD
10 NPS		64.44 in <sup>2</sup>			5-720 psi		UD
12 NPS		86.59 in <sup>2</sup>			5-720 psi		UD
14 NPS		118.04 in <sup>2</sup>			4-131 psi		UD
16 NPS		143.49 in <sup>2</sup>			4-131 psi		UD
18 NPS		180.57 in <sup>2</sup>			4-131 psi		UD
2 NPS		2.78 in <sup>2</sup>			15-1523 psi		UD
2.5 NPS		4.42 in <sup>2</sup>			15-1305 psi		UD
20 NPS		216.05 in <sup>2</sup>			4-131 psi		UD

24 NPS	315.73 in²	4-131 psi	UD
26 NPS	365.51 in²	4-131 psi	UD
28 NPS	444.5 in²	4-131 psi	UD
3 NPS	7.06 in²	10-1440 psi	UD
30 NPS	521.25 in²	4-131 psi	UD
32 NPS	616.4 in²	4-131 psi	UD
4 NPS	10.12 in²	5-1440 psi	UD
5 NPS	16.53 in²	5-1440 psi	UD
6 NPS	24.48 in²	5-870 psi	UD
8 NPS	40.5 in²	5-800 psi	UD

Fike Corporation (FIK)

Nameplate Abbreviation: Fike

Blue Springs, MO 64015United States

This Company Manufactures or Assembles:

Design Name: 1" RD540 SC		NBCert #	80165
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	04/11/2030
Design Type			
[Rupture Disk Device] 1" RD540 SC HolderDesignation: None Capacity Tests: Sec. UD at Fike Corporation on March 5, 2024 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg Certified Value: 1.200 Unitless; (alternate medium): 0.000 Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Fike Corporation {FIK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.501 in²			15-25 psi		UD

Design Name: 1/2 " P ST FS		NBCert #	80525
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	10/10/2026
Design Type			
[Rupture Disk Device] 1/2 " P ST FS HolderDesignation: Screw type flat seat Capacity Tests: Sec. UD at Fike Corporation on February 9, 2004 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl Certified Value: 5.390 Unitless Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Fike Corporation {FIK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.15 in <sup>2</sup>	0.438 in		42-15000 psi		UD
0.5 NPS		0.196 in <sup>2</sup>	0.5 in		42-10000 psi		UD

Design Name: 1/2 " SCRD ST FS Cross Scored NBCert # 80536

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/09/2026

#### Design Type

[Rupture Disk Device] 1/2 " SCRD ST FS Cross Scored  
HolderDesignation: Screw type flat seat  
Capacity Tests: Sec. UD at Fike Corporation on March 20, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
Certified Value: 5.390 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.15 in <sup>2</sup>	0.438 in		450-15000 psi		UD
0.5 NPS		0.196 in <sup>2</sup>	0.5 in		450-10000 psi		UD

Design Name: 1/2 " SCRD ST FS Double Hinge NBCert # 80547

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/09/2026

#### Design Type

[Rupture Disk Device] 1/2 " SCRD ST FS Double Hinge  
HolderDesignation: Screw type flat seat  
Capacity Tests: Sec. UD at Fike Corporation on March 17, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
Certified Value: 5.390 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.15 in <sup>2</sup>	0.438 in		80-15000 psi		UD
0.5 NPS		0.196 in <sup>2</sup>	0.5 in		80-10000 psi		UD

Design Name: 1/2" Poly SD Cross Score (liquid) NBCert # 80345

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/13/2030

**Design Type**

[Rupture Disk Device] 1/2" Poly SD Cross Score (liquid)  
HolderDesignation: Poly SD  
Capacity Tests: Sec. UD at Fike Corporation on March 12, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
Certified Value: 5.710 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.196 in <sup>2</sup>			450-4500 psi		UD

Design Name: 1/2" Poly SD Double Hinge (DH) NBCert # 80299

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

04/15/2029

**Design Type**

[Rupture Disk Device] 1/2" Poly SD Double Hinge (DH)  
HolderDesignation: Poly-SD  
Capacity Tests: Sec. UD at Fike Corporation on February 13, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 3.040 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.196 in <sup>2</sup>			80-3000 psi		UD

Design Name: 1/2" Poly SD Double Hinge (DH) liquid NBCert # 80301

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

04/13/2029

**Design Type**

[Rupture Disk Device] 1/2" Poly SD Double Hinge (DH) liquid  
HolderDesignation: Poly-SD  
Capacity Tests: Sec. UD at Fike Corporation on February 13, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
Certified Value: 5.300 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.196 in <sup>2</sup>			80-3000 psi		UD

Design Name: 3/4" Poly SD Double Hinge (DH) NBCert # 80288

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

05/16/2030

**Design Type**

[Rupture Disk Device] 3/4" Poly SD Double Hinge (DH)  
HolderDesignation: Poly-SD  
Capacity Tests: Sec. UD at Fike Corporation on February 25, 2002  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 2.400 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.442 in <sup>2</sup>			50-2500 psi		UD

Design Name: A10423-X w. P type disk NBCert # 80772

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD3

08/26/2025

**Design Type**

[Rupture Disk Device] A10423-X w. P type disk  
HolderDesignation: Union Type  
Media - ; Certified: Air, Gas, Liquid  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}  
Comments: Sizes listed in table are tubing sizes. 1/4" Disk is used for all sizes listed in table.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125 NPS		0.04 in <sup>2</sup>			5000-66000 psi		UD3
0.25 NPS		0.09 in <sup>2</sup>			5000-66000 psi		UD3
0.375 NPS		0.125 in <sup>2</sup>			5000-66000 psi		UD3
0.5625 NPS		0.188 in <sup>2</sup>			5000-66000 psi		UD3

Design Name: A8457-X with A8483-5 Housing NBCert # 80255

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

01/30/2026

**Design Type**

[Rupture Disk Device] A8457-X with A8483-5 Housing  
HolderDesignation: A8483-5  
Capacity Tests: Sec. UD at National Board Testing Lab on November 9, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 7.490 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.132 in <sup>2</sup>			275-3500 psi		UD

Design Name: A9111-X		NBCert #	80659
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	10/31/2025
Design Type			
[Rupture Disk Device] A9111-X HolderDesignation: A8483-2 Capacity Tests: Sec. UD at Fike Corporation on November 21, 2007 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg Certified Value: 2.580 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Fike Corporation {FIK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.5 NPS	0.302 in <sup>2</sup>			16-100 psi		UD

Design Name: A9225-X		NBCert #	80671
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	10/04/2026
Design Type			
[Rupture Disk Device] A9225-X HolderDesignation: A8509-3 Capacity Tests: Sec. UD at Fike Corporation on April 10, 2008 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg Certified Value: 0.550 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Fike Corporation {FIK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	3 NPS	7.393 in <sup>2</sup>			14-50 psi		UD

Design Name: A9930-X		NBCert #	80110
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	09/22/2027
Design Type			
[Rupture Disk Device] A9930-X HolderDesignation: N/A-Integral Welded Assembly Capacity Tests: Sec. UD at Fike Corporation on July 20, 2021 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg Certified Value: 8.150 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Fike Corporation {FIK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 in					1346-2625 psi		UD



Design Name: Atlas, RD300, & RD500 Double Disc		NBCert #	80783
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	11/21/2025
Design Type			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
Design Name:		Atlas, RD300, & RD500 Double Disc (Liquid)			NBCert #	80794	
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UD			11/21/2025	
Design Type							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
Design Name: ATLAS, RD300, RD500				NBCert #		80716	
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UD			03/29/2030	
Design Type							

[Rupture Disk Device] ATLAS, RD300, RD500  
HolderDesignation: Atlas  
Capacity Tests: Sec. UD at Fike Corporation on February 27, 2012  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.650 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.7 in²			200-1500 psi	Air	UD
1.5 NPS		1.8 in²			120-1200 psi	Air	UD
10 NPS		61.3 in²			50-520 psi	Air	UD
12 NPS		89.2 in²			50-425 psi	Air	UD
14 NPS		117 in²			6-300 psi	Air	UD
16 NPS		153 in²			5-250 psi	Air	UD
18 NPS		195 in²			5-200 psi	Air	UD
2 NPS		2.93 in²			75-1060 psi	Air	UD
20 NPS		239 in²			4.5-180 psi	Air	UD

24 NPS	346 in <sup>2</sup>	3.5-150 psi	Air	UD
26 NPS	408 in <sup>2</sup>	3.5-150 psi	Air	UD
28 NPS	474 in <sup>2</sup>	3.5-150 psi	Air	UD
3 NPS	6.35 in <sup>2</sup>	60-865 psi	Air	UD
30 NPS	541 in <sup>2</sup>	3.5-140 psi	Air	UD
32 NPS	617 in <sup>2</sup>	3.25-125 psi	Air	UD
36 NPS	784 in <sup>2</sup>	3.25-100 psi	Air	UD
4 NPS	10.9 in <sup>2</sup>	60-750 psi	Air	UD
42 NPS	1066 in <sup>2</sup>	3.25-115 psi	Air	UD
6 NPS	22.1 in <sup>2</sup>	165-290 psi	Air	UD
8 NPS	39.4 in <sup>2</sup>	50-525 psi	Air	UD

Design Name: ATLAS, RD300, RD500 (Liquid) NBCert # 80727

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 05/17/2030

#### Design Type

[Rupture Disk Device] ATLAS, RD300, RD500 (Liquid)  
Capacity Tests: Sec. UD at Fike Corporation on February 27, 2012  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 1.500 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.7 in <sup>2</sup>			200-1500 psi	Water	UD
1.5 NPS		1.8 in <sup>2</sup>			120-1200 psi	Water	UD
10 NPS		61.3 in <sup>2</sup>			50-520 psi	Water	UD
12 NPS		89.2 in <sup>2</sup>			50-425 psi	Water	UD
2 NPS		2.93 in <sup>2</sup>			75-1060 psi	Water	UD
3 NPS		6.35 in <sup>2</sup>			60-865 psi	Water	UD
4 NPS		10.9 in <sup>2</sup>			60-750 psi	Water	UD
6 NPS		22.1 in <sup>2</sup>			165-290 psi	Water	UD
8 NPS		39.4 in <sup>2</sup>			50-525 psi	Water	UD

Design Name: Axis SC NBCert # 80626

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 11/19/2029

**Design Type**

[Rupture Disk Device] Axius SC  
 HolderDesignation: Axius SC Sanitary  
 Capacity Tests: Sec. UD at Fike Corporation on June 26, 2007  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 1.880 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.41 in <sup>2</sup>			25-275 psi		UD
1.5 NPS		1.109 in <sup>2</sup>			10-200 psi		UD
2 NPS		2.111 in <sup>2</sup>			10-145 psi		UD
3 NPS		5.007 in <sup>2</sup>			10-80 psi		UD
38 DN		1.109 in <sup>2</sup>			10-200 psi		UD
4 NPS		9.022 in <sup>2</sup>			10-60 psi		UD
40 DN		1.33 in <sup>2</sup>			10-170 psi		UD
50 DN		2.111 in <sup>2</sup>			10-140 psi		UD
51 DN		2.111 in <sup>2</sup>			10-140 psi		UD
76 DN		5.007 in <sup>2</sup>			10-80 psi		UD

Design Name: Axius, RD320, RD520 NBCert # 80558

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/10/2027

**Design Type**

[Rupture Disk Device] Axius, RD320, RD520  
 HolderDesignation: SRL, SRLO - GI, -TQ  
 Capacity Tests: Sec. UD at Fike Corporation on September 19, 2005  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 0.450 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			9.2-65 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			8-65 psi		UD
10 NPS		64.9 in <sup>2</sup>			8-50 psi		UD
12 NPS		94.2 in <sup>2</sup>			8-35 psi		UD
2 NPS		3.36 in <sup>2</sup>			8-65 psi		UD
3 NPS		7.39 in <sup>2</sup>			6.9-65 psi		UD
4 NPS		12.7 in <sup>2</sup>			6.7-65 psi		UD
6 NPS		23.6 in <sup>2</sup>			8-65 psi	Air	UD
8 NPS		41.8 in <sup>2</sup>			8-65 psi	Air	UD

Design Name:	Axius, RD320, RD520 (gas)	NBCert #	80615
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 05/24/2028

#### Design Type

[Rupture Disk Device] Axius, RD320, RD520 (gas)  
HolderDesignation: XL, GI  
Capacity Tests: Sec. UD at Fike Corporation on September 6, 2006  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.450 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			65-600 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			65-385 psi		UD
10 NPS		59.5 in <sup>2</sup>			50-100 psi		UD
12 NPS		86.4 in <sup>2</sup>			35-70 psi		UD
2 NPS		3.36 in <sup>2</sup>			65-470 psi		UD
3 NPS		7.39 in <sup>2</sup>			65-430 psi		UD
4 NPS		12.6 in <sup>2</sup>			65-300 psi		UD
6 NPS		21.6 in <sup>2</sup>			65-200 psi		UD
8 NPS		38.4 in <sup>2</sup>			65-150 psi		UD

Design Name:	Axius, RD320, RD520 (liquid)	NBCert #	80604
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 09/09/2028

#### Design Type

[Rupture Disk Device] Axius, RD320, RD520 (liquid)  
HolderDesignation: XL, GI  
Capacity Tests: Sec. UD at Fike Corporation on September 6, 2006  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 1.250 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			65-600 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			65-385 psi		UD
10 NPS		59.5 in <sup>2</sup>			50-100 psi		UD
12 NPS		86.4 in <sup>2</sup>			35-70 psi		UD
2 NPS		3.36 in <sup>2</sup>			65-470 psi		UD
3 NPS		7.39 in <sup>2</sup>			65-430 psi		UD
4 NPS		12.6 in <sup>2</sup>			65-300 psi		UD

6 NPS	21.6 in <sup>2</sup>	65-200 psi	UD
8 NPS	38.4 in <sup>2</sup>	65-150 psi	UD

Design Name:	Axius, RD320, RD520 Double Disc (Axius DD)	NBCert #	80749
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/31/2025

#### Design Type

[Rupture Disk Device] Axius, RD320, RD520 Double Disc (Axius DD)  
 HolderDesignation: XL  
 Capacity Tests: Sec. UD at Fike Corporation on October 31, 2013  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.680 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			10-600 psi	Air	UD
1.5 NPS		2.04 in <sup>2</sup>			8-485 psi	Air	UD
10 NPS		59.5 in <sup>2</sup>			8-100 psi	Air	UD
12 NPS		86.4 in <sup>2</sup>			8-70 psi	Air	UD
2 NPS		3.36 in <sup>2</sup>			8-470 psi	Air	UD
3 NPS		7.39 in <sup>2</sup>			7-430 psi	Air	UD
4 NPS		12.6 in <sup>2</sup>			7-300 psi	Air	UD
6 NPS		21.6 in <sup>2</sup>			8-200 psi	Air	UD
8 NPS		38.4 in <sup>2</sup>			8-150 psi	Air	UD

Design Name:	Axius, RD320, RD520 Double Disc (Axius DD) (Liquid)	NBCert #	80750
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/31/2025

#### Design Type

[Rupture Disk Device] Axius, RD320, RD520 Double Disc (Axius DD) (Liquid)  
 HolderDesignation: XL DD  
 Capacity Tests: Sec. UD at Fike Corporation on October 31, 2013  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 1.100 Unitless  
 Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			10-600 psi	Water	UD
1.5 NPS		2.04 in <sup>2</sup>			8-485 psi	Water	UD
10 NPS		59.5 in <sup>2</sup>			8-100 psi	Water	UD
12 NPS		86.4 in <sup>2</sup>			8-70 psi	Water	UD
2 NPS		3.36 in <sup>2</sup>			8-470 psi	Water	UD

3 NPS	7.39 in <sup>2</sup>	7-430 psi	Water	UD
4 NPS	12.6 in <sup>2</sup>	7-300 psi	Water	UD
6 NPS	21.6 in <sup>2</sup>	8-200 psi	Water	UD
8 NPS	38.4 in <sup>2</sup>	8-150 psi	Water	UD

Design Name:	FSR Scored	NBCert #	80075
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	09/11/2025
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#### Design Type

[Rupture Disk Device] FSR Scored  
HolderDesignation: FSR  
Capacity Tests: Sec. UD at National Board Testing Lab on September 11, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.550 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.785 in <sup>2</sup>			146-6000 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			240-6000 psi		UD
10 NPS		78.9 in <sup>2</sup>			22-3000 psi		UD
12 NPS		113 in <sup>2</sup>			19-3000 psi		UD
14 NPS		138 in <sup>2</sup>			16-2500 psi		UD
16 NPS		183 in <sup>2</sup>			28-1800 psi		UD
18 NPS		234 in <sup>2</sup>			23-1500 psi		UD
2 NPS		3.36 in <sup>2</sup>			195-9000 psi		UD
2.5 NPS		4.79 in <sup>2</sup>			195-6000 psi		UD
20 NPS		291 in <sup>2</sup>			23-1200 psi		UD
24 NPS		425 in <sup>2</sup>			19-900 psi		UD
28 NPS		583 in <sup>2</sup>			100-600 psi		UD
3 NPS		7.39 in <sup>2</sup>			50-6000 psi		UD
3.5 NPS		9.89 in <sup>2</sup>			50-6000 psi		UD
30 NPS		672 in <sup>2</sup>			110-500 psi		UD
32 NPS		767 in <sup>2</sup>			100-400 psi		UD
34 NPS		868 in <sup>2</sup>			105-300 psi		UD
36 NPS		976 in <sup>2</sup>			105-250 psi		UD
4 NPS		12.7 in <sup>2</sup>			47-6000 psi		UD
6 NPS		28.9 in <sup>2</sup>			47-7500 psi		UD
8 NPS		50 in <sup>2</sup>			28-6000 psi		UD

Design Name:	FSR Scored (Liquid)	NBCert #	80514
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 05/07/2026

#### Design Type

[Rupture Disk Device] FSR Scored (Liquid)  
HolderDesignation: GI  
Capacity Tests: Sec. UD at Fike Corporation on November 18, 2004  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 2.400 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.59 in <sup>2</sup>			285-6000 psi		UD
1.5 NPS		1.35 in <sup>2</sup>			240-6000 psi		UD
10 NPS		78.9 in <sup>2</sup>			22-3000 psi		UD
12 NPS		113 in <sup>2</sup>			19-3000 psi		UD
14 NPS		138 in <sup>2</sup>			16-2500 psi		UD
16 NPS		183 in <sup>2</sup>			28-1800 psi		UD
18 NPS		234 in <sup>2</sup>			23-1500 psi		UD
2 NPS		3.36 in <sup>2</sup>			195-6000 psi		UD
20 NPS		291 in <sup>2</sup>			23-1200 psi		UD
24 NPS		425 in <sup>2</sup>			19-900 psi		UD
28 NPS		583 in <sup>2</sup>			100-600 psi		UD
3 NPS		7.39 in <sup>2</sup>			50-6000 psi		UD
3.5 NPS		9.89 in <sup>2</sup>			50-6000 psi		UD
30 NPS		672 in <sup>2</sup>			110-500 psi		UD
32 NPS		767 in <sup>2</sup>			100-400 psi		UD
34 NPS		868 in <sup>2</sup>			105-300 psi		UD
36 NPS		976 in <sup>2</sup>			105-250 psi		UD
4 NPS		12.7 in <sup>2</sup>			47-6000 psi		UD
6 NPS		28.9 in <sup>2</sup>			47-7500 psi		UD
8 NPS		50 in <sup>2</sup>			28-6000 psi		UD

Design Name:	HO, HOV with Union Type holder	NBCert #	80479
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 08/22/2025

**Design Type**

[Rupture Disk Device] HO, HOV with Union Type holder  
HolderDesignation: UT  
Capacity Tests: Sec. UD at Fike Corporation on October 8, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 3.500 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.694 in <sup>2</sup>			29-6000 psi		UD
1.5 NPS		1.43 in <sup>2</sup>			20-3000 psi		UD
2 NPS		2.95 in <sup>2</sup>			13-1000 psi		UD

Design Name: HO/HOV NBCert # 80064

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

01/14/2026

**Design Type**

[Rupture Disk Device] HO/HOV  
HolderDesignation: CONV  
Capacity Tests: Sec. UD at National Board Testing Lab on January 14, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 2.020 Unitless  
Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.694 in <sup>2</sup>			29-6000 psi		UD
1.5 NPS		1.43 in <sup>2</sup>			20-3000 psi		UD
10 NPS		67.2 in <sup>2</sup>			2.4-720 psi		UD
12 NPS		99.4 in <sup>2</sup>			2.4-720 psi		UD
14 NPS		138 in <sup>2</sup>			2.4-720 psi		UD
16 NPS		183 in <sup>2</sup>			2.3-720 psi		UD
18 NPS		234 in <sup>2</sup>			2-720 psi		UD
2 NPS		3.34 in <sup>2</sup>			13-3000 psi		UD
20 NPS		291 in <sup>2</sup>			1.8-720 psi		UD
24 NPS		425 in <sup>2</sup>			1.5-720 psi		UD
3 NPS		7.31 in <sup>2</sup>			8.4-3000 psi		UD
4 NPS		12.7 in <sup>2</sup>			4.8-3000 psi		UD
6 NPS		27.1 in <sup>2</sup>			3.6-2160 psi		UD
8 NPS		47.2 in <sup>2</sup>			2.7-1440 psi		UD



Design Name: HOV Flat Seat Multi-Petal		NBCert #	80581
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	10/20/2029
Design Type			
[Rupture Disk Device] HOV Flat Seat Multi-Petal HolderDesignation: HOV Capacity Tests: Sec. UD at Fike Corporation on July 11, 2006 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl Certified Value: 0.990 Unitless Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Fike Corporation {FIK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		3.34 in <sup>2</sup>			133-720 psi		UD
24 NPS		387 in <sup>2</sup>			10-65 psi		UD
26 NPS		459 in <sup>2</sup>			10-65 psi		UD
28 NPS		539 in <sup>2</sup>			10-65 psi		UD
3 NPS		7.31 in <sup>2</sup>			95-720 psi		UD
30 NPS		624 in <sup>2</sup>			10-65 psi		UD
32 NPS		716 in <sup>2</sup>			10-45 psi		UD
34 NPS		814 in <sup>2</sup>			10-45 psi		UD
36 NPS		918 in <sup>2</sup>			10-37 psi		UD
38 NPS		1030 in <sup>2</sup>			10-37 psi		UD
4 NPS		12.7 in <sup>2</sup>			88-720 psi		UD
40 NPS		1150 in <sup>2</sup>			10-37 psi		UD
42 NPS		1270 in <sup>2</sup>			10-30 psi		UD
44 NPS		1400 in <sup>2</sup>			10-30 psi		UD
48 NPS		1680 in <sup>2</sup>			10-30 psi		UD
8 NPS		47.2 in <sup>2</sup>			44-720 psi		UD
12 NPS	NPS	98.3 in <sup>2</sup>	0 in	0 in	15-100 psi		UD
14 NPS	NPS	137 in <sup>2</sup>	0 in	0 in	15-100 psi		UD

Design Name: HOV Flat Seat Single Hinge		NBCert #	80570
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	12/10/2027
Design Type			
[Rupture Disk Device] HOV Flat Seat Single Hinge HolderDesignation: HOV Capacity Tests: Sec. UD at Fike Corporation on April 19, 2006 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl Certified Value: 0.990 Unitless Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Fike Corporation {FIK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		3.34 in <sup>2</sup>			15.9-285 psi		UD
24 NPS		387 in <sup>2</sup>			1.5-40 psi		UD
26 NPS		459 in <sup>2</sup>			1.5-35 psi		UD
28 NPS		539 in <sup>2</sup>			1.5-35 psi		UD
3 NPS		7.31 in <sup>2</sup>			11.4-285 psi		UD
30 NPS		624 in <sup>2</sup>			1.5-30 psi		UD
32 NPS		716 in <sup>2</sup>			1.5-30 psi		UD
34 NPS		814 in <sup>2</sup>			1.5-30 psi		UD
36 NPS		918 in <sup>2</sup>			1.5-25 psi		UD
38 NPS		1030 in <sup>2</sup>			1.5-25 psi		UD
4 NPS		12.7 in <sup>2</sup>			8-285 psi		UD
40 NPS		1150 in <sup>2</sup>			1.5-25 psi		UD
42 NPS		1270 in <sup>2</sup>			1.5-20 psi		UD
44 NPS		1400 in <sup>2</sup>			1.5-20 psi		UD
48 NPS		1680 in <sup>2</sup>			1.5-20 psi		UD
8 NPS		47.2 in <sup>2</sup>			4.5-285 psi		UD
14 NPS	NPS	137 in <sup>2</sup>	0 in	0 in	4.5-40 psi		UD

Design Name: P, CP, CPC - Union Type Holder NBCert # 80457

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 08/19/2026

#### Design Type

[Rupture Disk Device] P, CP, CPC - Union Type Holder  
HolderDesignation: UT  
Capacity Tests: Sec. UD at Fike Corporation on October 22, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 4.800 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.196 in <sup>2</sup>			61-6000 psi		UD
0.75 NPS		0.432 in <sup>2</sup>			42-6000 psi		UD
1 NPS		0.719 in <sup>2</sup>			30-6000 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			23-3000 psi		UD
2 NPS		2.95 in <sup>2</sup>			15-1000 psi		UD

Design Name: P, CP,CPC NBCert # 80132

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 08/21/2025

## Design Type

[Rupture Disk Device] P, CP,CPC  
 HolderDesignation: A, B, C, D, E, F, G, GI, H, I, UT, ST  
 Capacity Tests: Sec. UD at National Board Testing Lab on February 8, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 1.350 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.442 in <sup>2</sup>			42-10000 psi		UD
1 NPS		0.785 in <sup>2</sup>			30-6000 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			23-3000 psi		UD
10 NPS		78.5 in <sup>2</sup>			3.6-720 psi		UD
12 NPS		113 in <sup>2</sup>			3.2-720 psi		UD
14 NPS		138 in <sup>2</sup>			2.8-720 psi		UD
16 NPS		183 in <sup>2</sup>			2.5-720 psi		UD
18 NPS		234 in <sup>2</sup>			2.3-720 psi		UD
2 NPS		3.34 in <sup>2</sup>			15-3000 psi		UD
20 NPS		291 in <sup>2</sup>			2-720 psi		UD
24 NPS		425 in <sup>2</sup>			1.5-720 psi		UD
3 NPS		7.37 in <sup>2</sup>			8.5-3000 psi		UD
4 NPS		12.7 in <sup>2</sup>			7-3000 psi		UD
6 NPS		28.9 in <sup>2</sup>			6-2160 psi		UD
8 NPS		50 in <sup>2</sup>			4-1440 psi		UD

Design Name: Poly SD Cross Score, Liquid NBCert # 80334

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	04/14/2029

## Design Type

[Rupture Disk Device] Poly SD Cross Score, Liquid  
 HolderDesignation: GI  
 Capacity Tests: Sec. UD at Fike Corporation on February 11, 2002  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 1.100 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.442 in <sup>2</sup>			250-3000 psi		UD
1 NPS		0.785 in <sup>2</sup>			124-2700 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			115-2400 psi		UD
10 NPS		78.9 in <sup>2</sup>			22-600 psi		UD
12 NPS		113 in <sup>2</sup>			18.6-500 psi		UD
14 NPS		138 in <sup>2</sup>			15.8-450 psi		UD

16 NPS	183 in <sup>2</sup>	27.9-400 psi	UD
18 NPS	234 in <sup>2</sup>	23-300 psi	UD
2 NPS	3.36 in <sup>2</sup>	70-2100 psi	UD
20 NPS	291 in <sup>2</sup>	23-250 psi	UD
24 NPS	425 in <sup>2</sup>	18.6-150 psi	UD
3 NPS	7.39 in <sup>2</sup>	52-1800 psi	UD
4 NPS	12.7 in <sup>2</sup>	47-1500 psi	UD
6 NPS	28.9 in <sup>2</sup>	47-800 psi	UD
8 NPS	50 in <sup>2</sup>	27.9-700 psi	UD

Design Name:	Poly-SD Double Hinge	NBCert #	80019
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 09/11/2025

#### Design Type

[Rupture Disk Device] Poly-SD Double Hinge  
HolderDesignation: Poly-SD  
Capacity Tests: Sec. UD at National Board Testing Lab on September 11, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.340 Unitless  
Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.785 in <sup>2</sup>			32-2250 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			28-1800 psi		UD
2 NPS		3.36 in <sup>2</sup>			21-1600 psi		UD
3 NPS		7.39 in <sup>2</sup>			14-1300 psi		UD
4 NPS		12.7 in <sup>2</sup>			14-1100 psi		UD
6 NPS		28.9 in <sup>2</sup>			14-700 psi		UD

Design Name:	Poly-SD Single Hinge	NBCert #	80008
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 11/23/2025

#### Design Type

[Rupture Disk Device] Poly-SD Single Hinge  
HolderDesignation: Poly SD  
Capacity Tests: Sec. UD at National Board Testing Lab on November 23, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.340 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.785 in <sup>2</sup>			31-2250 psi		UD

1.5 NPS	1.77 in <sup>2</sup>	27.5-1800 psi	UD
2 NPS	3.36 in <sup>2</sup>	21.2-1600 psi	UD
3 NPS	7.39 in <sup>2</sup>	14-1300 psi	UD
4 NPS	12.7 in <sup>2</sup>	14-1100 psi	UD
6 NPS	28.9 in <sup>2</sup>	14-700 psi	UD

Design Name:	Poly-SD, SCRD-V (Double Disc)	NBCert #	80592
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 12/21/2029

#### Design Type

[Rupture Disk Device] Poly-SD, SCRD-V (Double Disc)  
 HolderDesignation: Poly SD  
 Capacity Tests: Sec. UD at Fike Corporation on August 25, 2006  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 1.500 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		67.2 in <sup>2</sup>			22-600 psi		UD
12 NPS		99.4 in <sup>2</sup>			19-500 psi		UD
14 NPS		138 in <sup>2</sup>			16-450 psi		UD
16 NPS		183 in <sup>2</sup>			28-400 psi		UD
18 NPS		234 in <sup>2</sup>			23-300 psi		UD
2 NPS		3.36 in <sup>2</sup>			100-2100 psi		UD
20 NPS		291 in <sup>2</sup>			23-250 psi		UD
24 NPS		425 in <sup>2</sup>			19-150 psi		UD
3 NPS		7.35 in <sup>2</sup>			70-1800 psi		UD
4 NPS		12.7 in <sup>2</sup>			62-1500 psi		UD
6 NPS		22.3 in <sup>2</sup>			47-800 psi		UD
8 NPS		40.7 in <sup>2</sup>			28-700 psi		UD

Design Name:	PV, CP-C, CPV, CPV-C	NBCert #	80053
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 05/17/2030

#### Design Type

[Rupture Disk Device] PV, CP-C, CPV, CPV-C  
 HolderDesignation: CONV A, B, C, D, E, F, G, GI, H, I  
 Capacity Tests: Sec. UD at National Board Testing Lab on September 10, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 3.500 Unitless  
 Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.407 in <sup>2</sup>			96-10000 psi		UD
1 NPS		0.694 in <sup>2</sup>			73-6000 psi		UD
1.5 NPS		1.43 in <sup>2</sup>			48-3000 psi		UD
10 NPS		67.2 in <sup>2</sup>			7.4-720 psi		UD
12 NPS		99.4 in <sup>2</sup>			6.5-720 psi		UD
14 NPS		138 in <sup>2</sup>			5.6-720 psi		UD
16 NPS		183 in <sup>2</sup>			4.8-720 psi		UD
18 NPS		234 in <sup>2</sup>			4.4-720 psi		UD
2 NPS		3.34 in <sup>2</sup>			31-3000 psi		UD
20 NPS		291 in <sup>2</sup>			3.9-720 psi		UD
24 NPS		425 in <sup>2</sup>			3.3-720 psi		UD
3 NPS		7.31 in <sup>2</sup>			22-3000 psi		UD
4 NPS		12.6 in <sup>2</sup>			16.6-3000 psi		UD
6 NPS		27.1 in <sup>2</sup>			12.5-2160 psi		UD
8 NPS		47.2 in <sup>2</sup>			9.6-1440 psi		UD

Design Name:	PV, CP-P, CPV, CPV-C with Union Type Holder	NBCert #	80468
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/21/2025

#### Design Type

[Rupture Disk Device] PV, CP-P, CPV, CPV-C with Union Type Holder  
HolderDesignation: UT  
Capacity Tests: Sec. UD at Fike Corporation on December 8, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 8.800 Unitless  
Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.138 in <sup>2</sup>			164-6000 psi		UD
0.75 NPS		0.33 in <sup>2</sup>			96-6000 psi		UD
1 NPS		0.562 in <sup>2</sup>			73-6000 psi		UD
1.5 NPS		1.16 in <sup>2</sup>			48-3000 psi		UD
2 NPS		2.39 in <sup>2</sup>			31-1000 psi		UD

Design Name:	RD540	NBCert #	80806
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	07/29/2027

**Design Type**

[Rupture Disk Device] RD540  
HolderDesignation: XL, XLO  
Capacity Tests: Sec. UD at Fike Corporation on May 25, 2021  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.424 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			2.63-10 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			1.84-10 psi		UD
2 NPS		3.36 in <sup>2</sup>			2-10 psi		UD
3 NPS		7.39 in <sup>2</sup>			1.72-10 psi		UD
4 NPS		12.7 in <sup>2</sup>			1.75-10 psi		UD

Design Name: RD540 SC

NBCert # 80143

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

04/11/2030

**Design Type**

[Rupture Disk Device] RD540 SC  
HolderDesignation: None  
Capacity Tests: Sec. UD at Fike Corporation on March 7, 2024  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.720 Unitless; (alternate medium): 0.000  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.263 in <sup>2</sup>			3-10 psi		UD
2 NPS		2.414 in <sup>2</sup>			3-10 psi		UD
3 NPS		5.72 in <sup>2</sup>			2.5-10 psi		UD
38 DN		1.263 in <sup>2</sup>			3-10 psi		UD
4 NPS		10.308 in <sup>2</sup>			2.5-10 psi		UD
40 DN		1.52 in <sup>2</sup>			3-10 psi		UD
50 DN		2.414 in <sup>2</sup>			3-10 psi		UD
51 DN		2.414 in <sup>2</sup>			3-10 psi		UD
76 DN		5.72 in <sup>2</sup>			2.5-10 psi		UD

Design Name: SCRD FSR-VT

NBCert # 80154

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

10/28/2029

## Design Type

[Rupture Disk Device] SCRD FSR-VT  
 HolderDesignation: FSR-VT  
 Capacity Tests: Sec. UD at National Board Testing Lab on March 29, 2000  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 2.380 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.785 in <sup>2</sup>			285-6000 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			240-6000 psi		UD
10 NPS		78.9 in <sup>2</sup>			22-1480 psi		UD
12 NPS		113 in <sup>2</sup>			19-1000 psi		UD
14 NPS		138 in <sup>2</sup>			16-910 psi		UD
16 NPS		183 in <sup>2</sup>			28-800 psi		UD
18 NPS		234 in <sup>2</sup>			23-700 psi		UD
2 NPS		3.36 in <sup>2</sup>			195-6000 psi		UD
2.5 NPS		4.79 in <sup>2</sup>			195-6000 psi		UD
20 NPS		291 in <sup>2</sup>			23-600 psi		UD
24 NPS		425 in <sup>2</sup>			19-540 psi		UD
3 NPS		7.39 in <sup>2</sup>			50-6000 psi		UD
3.5 NPS		9.89 in <sup>2</sup>			50-6000 psi		UD
4 NPS		12.7 in <sup>2</sup>			47-6000 psi		UD
6 NPS		28.9 in <sup>2</sup>			47-6000 psi		UD
8 NPS		50 in <sup>2</sup>			28-6000 psi		UD

Design Name: SCRD-FSR-SQ NBCert # 80761

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/19/2027

## Design Type

[Rupture Disk Device] SCRD-FSR-SQ  
 HolderDesignation: Gi / FSR-SQ  
 Capacity Tests: Sec. UD at Fike Corporation on May 16, 2015  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 2.000 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.275 in <sup>2</sup>			6000-40000 psi	Air	UD
10 NPS		57.3 in <sup>2</sup>			400-4000 psi	Air	UD
12 NPS		84.7 in <sup>2</sup>			400-600 psi	Air	UD
14 NPS		104.3 in <sup>2</sup>			400-750 psi	Air	UD
16 NPS		139.8 in <sup>2</sup>			400-600 psi	Air	UD



18 NPS	180.6 in <sup>2</sup>	400-600 psi	Air	UD
2 NPS	2.4 in <sup>2</sup>	500-4000 psi	Air	UD
20 NPS	226.4 in <sup>2</sup>	150-600 psi	Air	UD
3 NPS	5.25 in <sup>2</sup>	400-4000 psi	Air	UD
4 NPS	9.12 in <sup>2</sup>	400-4000 psi	Air	UD
6 NPS	29.42 in <sup>2</sup>	400-6900 psi	Air	UD

Design Name:	SCRD-FSR-VT (Liquid)	NBCert #	80187
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 12/19/2029

#### Design Type

[Rupture Disk Device] SCRD-FSR-VT (Liquid)  
HolderDesignation: FSR-VT  
Capacity Tests: Sec. UD at National Board Testing Lab on July 6, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 8.710 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.59 in <sup>2</sup>			285-6000 psi		UD
1.5 NPS		1.35 in <sup>2</sup>			240-6000 psi		UD
10 NPS		78.9 in <sup>2</sup>			22-1480 psi		UD
12 NPS		113 in <sup>2</sup>			19-1000 psi		UD
14 NPS		138 in <sup>2</sup>			16-910 psi		UD
16 NPS		183 in <sup>2</sup>			28-800 psi		UD
18 NPS		234 in <sup>2</sup>			23-700 psi		UD
2 NPS		3.36 in <sup>2</sup>			195-6000 psi		UD
2.5 NPS		4.79 in <sup>2</sup>			195-6000 psi		UD
20 NPS		291 in <sup>2</sup>			23-600 psi		UD
24 NPS		425 in <sup>2</sup>			19-540 psi		UD
3 NPS		7.39 in <sup>2</sup>			50-6000 psi		UD
3.5 NPS		9.89 in <sup>2</sup>			50-6000 psi		UD
4 NPS		12.7 in <sup>2</sup>			47-6000 psi		UD
6 NPS		28.9 in <sup>2</sup>			47-6000 psi		UD
8 NPS		50 in <sup>2</sup>			28-6000 psi		UD

Design Name:	SCRD-V Cross Score	NBCert #	80200
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/20/2029

## Design Type

[Rupture Disk Device] SCRD-V Cross Score  
 HolderDesignation: GI, TQ  
 Capacity Tests: Sec. UD at Fike Corporation on August 1, 2011  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 1.500 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		67.2 in <sup>2</sup>			22-600 psi	Air	UD
12 NPS		99.4 in <sup>2</sup>			18.6-500 psi	Air	UD
14 NPS		138 in <sup>2</sup>			15.8-450 psi	Air	UD
16 NPS		183 in <sup>2</sup>			27.8-400 psi	Air	UD
18 NPS		234 in <sup>2</sup>			23-300 psi	Air	UD
2 NPS		3.36 in <sup>2</sup>			100-2100 psi	Air	UD
20 NPS		291 in <sup>2</sup>			23-250 psi	Air	UD
24 NPS		425 in <sup>2</sup>			18.6-150 psi	Air	UD
3 NPS		7.35 in <sup>2</sup>			70-1800 psi	Air	UD
4 NPS		12.7 in <sup>2</sup>			62.1-1500 psi	Air	UD
6 NPS		22.3 in <sup>2</sup>			47-800 psi	Air	UD
8 NPS		40.7 in <sup>2</sup>			27.9-700 psi	Air	UD

Design Name: SR-H

NBCert # 80097

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	11/23/2025

## Design Type

[Rupture Disk Device] SR-H  
 HolderDesignation: N/A  
 Capacity Tests: Sec. UD at National Board Testing Lab on November 23, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 1.880 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.34 in <sup>2</sup>			18-163 psi		UD
2 NPS		2.55 in <sup>2</sup>			13-117 psi		UD
3 NPS		6.1 in <sup>2</sup>			13-150 psi		UD
4 NPS		11 in <sup>2</sup>			10-64 psi		UD
40 DN		1.6 in <sup>2</sup>			16-163 psi		UD
50 DN		2.72 in <sup>2</sup>			13-117 psi		UD

Design Name: SRL		NBCert #	80031
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	09/11/2025
Design Type			
[Rupture Disk Device] SRL HolderDesignation: SRL -GI, -TQ, SRLO-GI, -TQ, XL Capacity Tests: Sec. UD at National Board Testing Lab on September 11, 1998 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 0.430 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Fike Corporation {FIK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			27-352 psi		UD
1.25 NPS		1.5 in <sup>2</sup>			28-320 psi		UD
1.5 NPS		1.67 in <sup>2</sup>			27-352 psi		UD
2 NPS		3.36 in <sup>2</sup>			17-291 psi		UD
2.5 NPS		4.36 in <sup>2</sup>			17-291 psi		UD
3 NPS		7.39 in <sup>2</sup>			13-220 psi		UD
3.5 NPS		8.89 in <sup>2</sup>			13-220 psi		UD
4 NPS		12.7 in <sup>2</sup>			10-198 psi		UD
6 NPS		25.2 in <sup>2</sup>			8-165 psi		UD
8 NPS		44.8 in <sup>2</sup>			8-148 psi		UD

Design Name: SRL (gas/liq.)		NBCert #	80277
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	12/10/2027
Design Type			
[Rupture Disk Device] SRL (gas/liq.) HolderDesignation: SRL, XL Capacity Tests: Sec. UD at Fike Corporation on February 14, 2002 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl Certified Value: 0.590 Unitless Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Fike Corporation {FIK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			27-352 psi		UD
1.5 NPS		1.67 in <sup>2</sup>			27-352 psi		UD
2 NPS		3.36 in <sup>2</sup>			17-291 psi		UD
2.5 NPS		4.36 in <sup>2</sup>			17-291 psi		UD
3 NPS		7.39 in <sup>2</sup>			13-220 psi		UD
3.5 NPS		8.89 in <sup>2</sup>			13-220 psi		UD

4 NPS	12.7 in²	10-195 psi	UD
6 NPS	25.2 in²	8-198 psi	UD
8 NPS	44.8 in²	8-148 psi	UD

Design Name:	SRX	NBCert #	80042
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	09/16/2025
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Design Type
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[Rupture Disk Device] SRX  
 HolderDesignation: SRX -GI, -TQ  
 Capacity Tests: Sec. UD at National Board Testing Lab on September 11, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.990 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Fike Corporation {FIK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in²			95-720 psi		UD
1.5 NPS		1.54 in²			80-720 psi		UD
10 NPS		69.6 in²			27-350 psi		UD
12 NPS		102 in²			24-250 psi		UD
14 NPS		138 in²			27-165 psi		UD
16 NPS		183 in²			22-150 psi		UD
18 NPS		234 in²			22-135 psi		UD
2 NPS		3.36 in²			74-720 psi		UD
2.5 NPS		4.26 in²			74-720 psi		UD
20 NPS		291 in²			18-120 psi		UD
24 NPS		425 in²			18-120 psi		UD
3 NPS		7.39 in²			54-720 psi		UD
3.5 NPS		8.36 in²			54-720 psi		UD
4 NPS		12.7 in²			45-720 psi		UD
6 NPS		25.3 in²			36-630 psi		UD
8 NPS		43.3 in²			32-500 psi		UD

Fisher Jeon Gas Equipment (Chengdu) Co., Ltd. (FJG)

Chengdu City, Sichuan Province, 610045People's Republic of China

This Company Manufactures or Assembles:

Design Name:	C776	NBCert #	36425
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	02/13/2030
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## Design Type

[Safety Relief Valve] C776  
Capacity Tests: Sec. UV at Crosby Valve, LLC on July 15, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.790 Unitless  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Regulator Technologies - Fromex S.A. de C.V. {FCF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.169 in <sup>2</sup>	0.465 in	0.116 in	15-600 psi	Air	UV
1 NPS	1.25 NPS	0.34 in <sup>2</sup>	0.658 in	0.164 in	15-500 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.486 in <sup>2</sup>	0.787 in	0.197 in	15-600 psi	Air	UV
1.25 NPS	1.5 NPS	0.645 in <sup>2</sup>	0.906 in	0.227 in	15-500 psi	Air	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.286 in	15-500 psi	Air	UV
2-2.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.364 in	15-500 psi	Air	UV

## Flotech, LLC (FLO)

Jacksonville, FL 32218United States

### This Company Manufactures or Assembles:

Design Name: 2600 & 2600S

NBCert #

57057

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/11/2030

## Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV

1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)			NBCert # 57260	
Manufacturer/Assembler		Designators	Expiration Date	
Assembler		UV	01/11/2030	

## Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids)				NBCert # 57068			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		01/11/2030		
Design Type							
[Relief Valve] 2600L (Liquids) Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.652 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in²	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in²	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in²	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in²	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in²	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in²	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in²	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in²	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in²	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in²	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S		NBCert # 57237
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/11/2030
Design Type		
<p>[Safety Relief Valve] 2700, 2700S, 3700, 3700S Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</p>		



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	01/11/2030
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#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800	NBCert # 57024
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	01/11/2030
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV

8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 4200 / 4400 NBCert # 57282

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 01/11/2030

#### Design Type

[Safety Valve] 4200 / 4400  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.872 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

Design Name: Kunkle 337 NBCert # 36278

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 01/11/2030

#### Design Type

[Safety Relief Valve] Kunkle 337  
Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name:	Kunkle 6000, 6252 Series	NBCert #	36324
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	01/11/2030
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#### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V

4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name: Kunkle 910 to 919

NBCert #

36100

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/11/2030

#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)

NBCert #

36111

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/11/2030

## Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

## Flow-Safe, Inc. (FLW)

Nameplate Abbreviation: Flow Safe, Inc.

Orchard Park, NY 14127United States

### This Company Manufactures or Assembles:

Design Name: F7100, F7200, F7300, F7400, F7500 NBCert # 28000

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/18/2029

## Design Type

[Pilot Operated Pressure Relief Valve] F7100, F7200, F7300, F7400, F7500  
Capacity Tests: Sec. UV at National Board Testing Lab on January 5, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.824 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.521 in <sup>2</sup>	0.815 in	0.43 in	1500-6000 psi	Air	UV
1 NPS	2 NPS	0.719 in <sup>2</sup>	0.957 in	0.43 in	15-2220 psi	Air	UV
1.5 NPS	3 NPS	0.95 in <sup>2</sup>	1.1 in	0.665 in	3706-6000 psi	Air	UV
1.5 NPS	3 NPS	1.404 in <sup>2</sup>	1.337 in	0.665 in	1000-3705 psi	Air	UV
1.5 NPS	3 NPS	1.767 in <sup>2</sup>	1.5 in	0.665 in	15-1480 psi	Air	UV
2 NPS	3, 3 dual NPS	1.774 in <sup>2</sup>	1.503 in	0.865 in	3706-6000 psi	Air	UV
2 NPS	3, 3 dual NPS	2.241 in <sup>2</sup>	1.689 in	0.865 in	1481-3705 psi	Air	UV
2 NPS	3, 3 dual NPS	2.953 in <sup>2</sup>	1.939 in	0.865 in	15-1480 psi	Air	UV
3 NPS	4, 4 dual NPS	5.408 in <sup>2</sup>	2.624 in	1.235 in	1481-3705 psi	Air	UV

3 NPS	4, 4 dual NPS	6.605 in <sup>2</sup>	2.9 in	1.235 in	15-1480 psi	Air	UV
4 NPS	6, 6 dual NPS	10.315 in <sup>2</sup>	3.624 in	1.53 in	1481-3705 psi	Air	UV
4 NPS	6, 6 dual NPS	11.437 in <sup>2</sup>	3.816 in	1.53 in	15-1480 psi	Air	UV
6 NPS	8, 8 dual NPS	26.06 in <sup>2</sup>	5.76 in	2.2 in	15-1480 psi	Air	UV
8 NPS	10, 8 dual, 10 dual NPS	45.66 in <sup>2</sup>	7.625 in	2.86 in	15-1480 psi	Air	UV
10 NPS	12 NPS	71.85 in <sup>2</sup>	9.565 in	3.64 in	15-750 psi	Air	UV
12 NPS	16 NPS	111.87 in <sup>2</sup>	11.935 in	4.17 in	15-285 psi	Air	UV

Design Name: F7100, F7300, F7400, F7500 (Liquids) NBCert # 28011

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/28/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] F7100, F7300, F7400, F7500 (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on January 5, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.634 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.522 in <sup>2</sup>	0.815 in	0.43 in	2221-6000 psi	Water	UV
1 NPS	2 NPS	0.719 in <sup>2</sup>	0.957 in	0.43 in	15-2220 psi	Water	UV
1.5 NPS	3 NPS	0.95 in <sup>2</sup>	1.1 in	0.665 in	3706-6000 psi	Water	UV
1.5 NPS	3 NPS	1.404 in <sup>2</sup>	1.337 in	0.665 in	1481-3705 psi	Water	UV
1.5 NPS	3 NPS	1.767 in <sup>2</sup>	1.5 in	0.665 in	15-1480 psi	Water	UV
2 NPS	3 NPS	1.774 in <sup>2</sup>	1.503 in	0.865 in	3706-6000 psi	Water	UV
2 NPS	3 NPS	2.24 in <sup>2</sup>	1.689 in	0.865 in	1481-3705 psi	Water	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	1.939 in	0.865 in	15-1480 psi	Water	UV
3 NPS	4 NPS	5.408 in <sup>2</sup>	2.624 in	1.235 in	1481-3705 psi	Water	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	2.9 in	1.235 in	15-1480 psi	Water	UV
4 NPS	6 NPS	10.315 in <sup>2</sup>	3.624 in	1.53 in	1481-3705 psi	Water	UV
4 NPS	6 NPS	11.437 in <sup>2</sup>	3.816 in	1.53 in	15-1480 psi	Water	UV
6 NPS	8 NPS	26.06 in <sup>2</sup>	5.76 in	2.2 in	15-1480 psi	Water	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	7.625 in	2.86 in	15-1480 psi	Water	UV
10 NPS	12 NPS	71.85 in <sup>2</sup>	9.565 in	3.64 in	15-750 psi	Water	UV
12 NPS	16 NPS	111.87 in <sup>2</sup>	11.935 in	4.17 in	15-285 psi	Water	UV

Design Name: F8100, F8200, F8300, F8400, F8500 NBCert # 28022

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/06/2027

## Design Type

[Pilot Operated Pressure Relief Valve] F8100, F8200, F8300, F8400, F8500  
 Capacity Tests: Sec. UV at National Board Testing Lab on August 30, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition(1): Initial Audible Discharge; (3): Pop  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.134 in <sup>2</sup>	[D] 0.815 in	0.43 in	2221-6000 psi	Air	UV
1 NPS	2 NPS	0.235 in <sup>2</sup>	[E] 0.815 in	0.43 in	2221-6000 psi	Air	UV
1 NPS	2 NPS	0.358 in <sup>2</sup>	[F] 0.815 in	0.43 in	2221-3705 psi	Air	UV
1 NPS	2 NPS	0.134 in <sup>2</sup>	[D] 0.957 in	0.43 in	15-2220 psi	Air	UV
1 NPS	2 NPS	0.235 in <sup>2</sup>	[E] 0.957 in	0.43 in	15-2220 psi	Air	UV
1 NPS	2 NPS	0.358 in <sup>2</sup>	[F] 0.957 in	0.43 in	15-2220 psi	Air	UV
1.5 NPS	3 NPS	0.358 in <sup>2</sup>	[F] 1.1 in	0.665 in	3706-6000 psi	Air	UV
1.5 NPS	3 NPS	0.588 in <sup>2</sup>	[G] 1.1 in	0.665 in	3706-6000 psi	Air	UV
1.5 NPS	3 NPS	0.916 in <sup>2</sup>	[H] 1.1 in	0.665 in	3706-6000 psi	Air	UV
1.5 NPS	3 NPS	0.358 in <sup>2</sup>	[F] 1.337 in	0.665 in	1481-3705 psi	Air	UV
1.5 NPS	3 NPS	0.916 in <sup>2</sup>	[H] 1.337 in	0.665 in	1481-3705 psi	Air	UV
1.5 NPS	3 NPS	0.588 in <sup>2</sup>	[G] 1.337 in	0.665 in	1481-3705 psi	Air	UV
1.5 NPS	3 NPS	0.588 in <sup>2</sup>	[G] 1.5 in	0.665 in	15-1480 psi	Air	UV
1.5 NPS	3 NPS	0.358 in <sup>2</sup>	[F] 1.5 in	0.665 in	15-1480 psi	Air	UV
1.5 NPS	3 NPS	0.916 in <sup>2</sup>	[H] 1.5 in	0.665 in	15-1480 psi	Air	UV
2 NPS	3, 3 dual NPS	0.916 in <sup>2</sup>	[H] 1.503 in	0.865 in	3706-6000 psi	Air	UV
2 NPS	3, 3 dual NPS	1.503 in <sup>2</sup>	[J] 1.503 in	0.865 in	3706-6000 psi	Air	UV
2 NPS	3, 3 dual NPS	0.588 in <sup>2</sup>	[G] 1.503 in	0.865 in	3706-6000 psi	Air	UV
2 NPS	3, 3 dual NPS	1.503 in <sup>2</sup>	[J] 1.689 in	0.865 in	1481-3705 psi	Air	UV
2 NPS	3, 3 dual NPS	0.916 in <sup>2</sup>	[H] 1.689 in	0.865 in	1481-3705 psi	Air	UV
2 NPS	3, 3 dual NPS	0.588 in <sup>2</sup>	[G] 1.689 in	0.865 in	1481-3705 psi	Air	UV
2 NPS	3, 3 dual NPS	0.588 in <sup>2</sup>	[G] 1.939 in	0.865 in	15-1480 psi	Air	UV
2 NPS	3, 3 dual NPS	0.916 in <sup>2</sup>	[H] 1.939 in	0.865 in	15-1480 psi	Air	UV
2 NPS	3, 3 dual NPS	1.503 in <sup>2</sup>	[J] 1.939 in	0.865 in	15-1480 psi	Air	UV
3 NPS	4, 4 dual NPS	3.277 in <sup>2</sup>	[L] 2.624 in	1.235 in	1481-3705 psi	Air	UV
3 NPS	4, 4 dual NPS	2.147 in <sup>2</sup>	[K] 2.624 in	1.235 in	1481-3705 psi	Air	UV
3 NPS	4, 4 dual NPS	1.503 in <sup>2</sup>	[J] 2.624 in	1.235 in	1481-3705 psi	Air	UV
3 NPS	4, 4 dual NPS	1.503 in <sup>2</sup>	[J] 2.9 in	1.235 in	15-1480 psi	Air	UV
3 NPS	4, 4 dual NPS	2.147 in <sup>2</sup>	[K] 2.9 in	1.235 in	15-1480 psi	Air	UV
3 NPS	4, 4 dual NPS	3.277 in <sup>2</sup>	[L] 2.9 in	1.235 in	15-1480 psi	Air	UV
4 NPS	6, 6 dual NPS	4.147 in <sup>2</sup>	[M] 3.624 in	1.53 in	1481-3705 psi	Air	UV
4 NPS	6, 6 dual NPS	5.014 in <sup>2</sup>	[N] 3.624 in	1.53 in	1481-3705 psi	Air	UV
4 NPS	6, 6 dual NPS	3.277 in <sup>2</sup>	[L] 3.624 in	1.53 in	1481-3705 psi	Air	UV



4 NPS	6, 6 dual NPS	7.397 in <sup>2</sup>	[P] 3.624 in	1.53 in	1481-3705 psi	Air	UV
4 NPS	6, 6 dual NPS	5.014 in <sup>2</sup>	[N] 3.816 in	1.53 in	15-1480 psi	Air	UV
4 NPS	6, 6 dual NPS	3.277 in <sup>2</sup>	[L] 3.816 in	1.53 in	15-1480 psi	Air	UV
4 NPS	6, 6 dual NPS	4.147 in <sup>2</sup>	[M] 3.816 in	1.53 in	15-1480 psi	Air	UV
4 NPS	6, 6 dual NPS	7.397 in <sup>2</sup>	[P] 3.816 in	1.53 in	15-1480 psi	Air	UV
6 NPS	8, 8 dual NPS	18.704 in <sup>2</sup>	[R] 5.76 in	2.2 in	15-1480 psi	Air	UV
6 NPS	8, 8 dual NPS	12.913 in <sup>2</sup>	[Q] 5.76 in	2.2 in	15-1480 psi	Air	UV
8 NPS	10, 8 dual, 10 dual NPS	30.409 in <sup>2</sup>	[T] 7.625 in	2.86 in	15-1480 psi	Air	UV
8 NPS	10 NPS	16.53 in <sup>2</sup>	[R-1] 7.625 in	2.86 in	15-1480 psi	Air	UV
10 NPS	12 NPS	51 in <sup>2</sup>	[V] 9.565 in	3.64 in	15-750 psi	Air	UV
12 NPS	16 NPS	78.81 in <sup>2</sup>	[W] 11.935 in	4.17 in	15-285 psi	Air	UV

Design Name:	F8100, F8300, F8500 (High Beta Ratio Sizes) (Liquid)	NBCert #	28156
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 05/27/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] F8100, F8300, F8500 (High Beta Ratio Sizes) (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on March 12, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.730 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	4 NPS	3.277 in <sup>2</sup>	[L] 2.624 in	1.235 in	15-3705 psi	Water	UV
4 NPS	6 NPS	7.397 in <sup>2</sup>	[P] 3.816 in	1.53 in	15-3705 psi	Water	UV
6 NPS	8 NPS	18.704 in <sup>2</sup>	[R] 5.76 in	2.2 in	15-1480 psi	Water	UV
8 NPS	10 NPS	30.409 in <sup>2</sup>	[T] 7.625 in	2.86 in	15-1480 psi	Water	UV
10 NPS	12 NPS	51 in <sup>2</sup>	[V] 9.565 in	3.64 in	15-750 psi	Water	UV
12 NPS	16 NPS	78.81 in <sup>2</sup>	[W] 10.017 in	4.17 in	15-285 psi	Water	UV

Design Name:	F8100, F8300, F8500 (liquid)	NBCert #	28099
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/26/2025

#### Design Type

[Pilot Operated Pressure Relief Valve] F8100, F8300, F8500 (liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on February 12, 2008  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.830 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.134 in <sup>2</sup>	[D] 0.815 in	0.43 in	2221-6000 psi	Water	UV
1 NPS	2 NPS	0.235 in <sup>2</sup>	[E] 0.815 in	0.43 in	2221-6000 psi	Water	UV
1 NPS	2 NPS	0.235 in <sup>2</sup>	[E] 0.957 in	0.43 in	15-2220 psi	Water	UV
1 NPS	2 NPS	0.134 in <sup>2</sup>	[D] 0.957 in	0.43 in	15-2220 psi	Water	UV
1 NPS	2 NPS	0.358 in <sup>2</sup>	[F] 0.957 in	0.43 in	15-2220 psi	Water	UV
1.5 NPS	3 NPS	0.358 in <sup>2</sup>	[F] 1.1 in	0.665 in	3706-6000 psi	Water	UV
1.5 NPS	3 NPS	0.358 in <sup>2</sup>	[F] 1.337 in	0.665 in	1481-3705 psi	Water	UV
1.5 NPS	3 NPS	0.588 in <sup>2</sup>	[G] 1.337 in	0.665 in	1481-3705 psi	Water	UV
1.5 NPS	3 NPS	0.916 in <sup>2</sup>	[H] 1.5 in	0.665 in	15-1480 psi	Water	UV
1.5 NPS	3 NPS	0.358 in <sup>2</sup>	[F] 1.5 in	0.665 in	15-1480 psi	Water	UV
1.5 NPS	3 NPS	0.588 in <sup>2</sup>	[G] 1.5 in	0.665 in	15-1480 psi	Water	UV
2 NPS	3 NPS	0.588 in <sup>2</sup>	[G] 1.503 in	0.865 in	3706-6000 psi	Water	UV
2 NPS	3 NPS	0.916 in <sup>2</sup>	[H] 1.503 in	0.865 in	3706-6000 psi	Water	UV
2 NPS	3 NPS	0.588 in <sup>2</sup>	[G] 1.689 in	0.865 in	1481-3705 psi	Water	UV
2 NPS	3 NPS	0.916 in <sup>2</sup>	[H] 1.689 in	0.865 in	1481-3705 psi	Water	UV
2 NPS	3 NPS	0.588 in <sup>2</sup>	[G] 1.939 in	0.865 in	15-1480 psi	Water	UV
2 NPS	3 NPS	0.916 in <sup>2</sup>	[H] 1.939 in	0.865 in	15-1480 psi	Water	UV
2 NPS	3 NPS	1.503 in <sup>2</sup>	[J] 1.939 in	0.865 in	15-1480 psi	Water	UV
3 NPS	4 NPS	1.503 in <sup>2</sup>	[J] 2.624 in	1.235 in	1481-3705 psi	Water	UV
3 NPS	4 NPS	2.147 in <sup>2</sup>	[K] 2.624 in	1.235 in	1481-3705 psi	Water	UV
3 NPS	4 NPS	3.277 in <sup>2</sup>	[L] 2.9 in	1.235 in	15-1480 psi	Water	UV
3 NPS	4 NPS	1.503 in <sup>2</sup>	[J] 2.9 in	1.235 in	15-1480 psi	Water	UV
3 NPS	4 NPS	2.147 in <sup>2</sup>	[K] 2.9 in	1.235 in	15-1480 psi	Water	UV
4 NPS	6 NPS	3.277 in <sup>2</sup>	[L] 3.624 in	1.53 in	1481-3705 psi	Water	UV
4 NPS	6 NPS	4.147 in <sup>2</sup>	[M] 3.624 in	1.53 in	1481-3705 psi	Water	UV
4 NPS	6 NPS	5.014 in <sup>2</sup>	[N] 3.624 in	1.53 in	1481-3705 psi	Water	UV
4 NPS	6 NPS	3.277 in <sup>2</sup>	[L] 3.816 in	1.53 in	15-1480 psi	Water	UV
4 NPS	6 NPS	4.147 in <sup>2</sup>	[M] 3.816 in	1.53 in	15-1480 psi	Water	UV
4 NPS	6 NPS	5.014 in <sup>2</sup>	[N] 3.816 in	1.53 in	15-1480 psi	Water	UV
6 NPS	8 NPS	12.913 in <sup>2</sup>	[Q] 5.76 in	2.2 in	15-1480 psi	Water	UV

Design Name: F84, F85		NBCert #	28066
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	01/18/2029

## Design Type

[Safety Relief Valve] F84, F85  
Capacity Tests: Sec. UV at National Board Testing Lab on January 18, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.75 NPS	.5 - .75 NPS	0.003 in <sup>2</sup>	[-1] 0.062 in	0.06 in	15-15000 psi	Air	UV
0.25-0.75 NPS	.5, .75 NPS	0.015 in <sup>2</sup>	[-2] 0.138 in	0.075 in	15-15000 psi	Air	UV
0.5-0.75 NPS	.5, .75 NPS	0.034 in <sup>2</sup>	[-3] 0.209 in	0.113 in	15-890 psi	Air	UV
0.5-2 NPS	.5 - 1 NPS	0.065 in <sup>2</sup>	[-4] 0.289 in	0.152 in	15-9612 psi	Air	UV
0.5-1 NPS	1 NPS	0.149 in <sup>2</sup>	[-6] 0.436 in	0.211 in	15-6100 psi	Air	UV
0.75-1 NPS	1 NPS	0.261 in <sup>2</sup>	[-8] 0.577 in	0.262 in	15-4292 psi	Air	UV
1.5 NPS	2 NPS	0.405 in <sup>2</sup>	[F] 0.718 in	0.328 in	15-5000 psi	Air	UV
1.5 NPS	2 NPS	0.664 in <sup>2</sup>	[G] 0.919 in	0.411 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	1.036 in <sup>2</sup>	[H] 1.149 in	0.493 in	15-2750 psi	Air	UV
2 NPS	3 NPS	1.689 in <sup>2</sup>	[J] 1.467 in	0.631 in	15-2700 psi	Air	UV

Design Name: F84L, F88 (liquids)

NBCert #

28055

## Manufacturer/Assembler

## Designators

## Expiration Date

Manufacturer

UV

12/18/2029

## Design Type

[Safety Relief Valve] F84L, F88 (liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on August 26, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.798 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.261 in <sup>2</sup>	[#8] 0.577 in	0.27 in	30-4292 psi	Water	UV
1.5 NPS	2 NPS	0.663 in <sup>2</sup>	[G] 0.919 in	0.34 in	30-3705 psi	Water	UV
2 NPS	3 NPS	1.69 in <sup>2</sup>	[J] 1.467 in	0.6 in	30-2700 psi	Water	UV

Design Name: F84L-2

NBCert #

28123

## Manufacturer/Assembler

## Designators

## Expiration Date

Manufacturer

UV

12/21/2028

**Design Type**

[Safety Relief Valve] F84L-2  
Capacity Tests: Sec. UV at National Board Testing Lab on October 5, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.353 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.015 in <sup>2</sup>	[-2] 0.138 in	0.07 in	200-24277 psi	Water	UV

Design Name: F84L-2 LP NBCert # 28167

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/01/2028

**Design Type**

[Safety Relief Valve] F84L-2 LP  
Capacity Tests: Sec. UV at National Board Testing Lab on December 7, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.362 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 in	0.5-1 in	0.015 in <sup>2</sup>	0.138 in	0.07 in	50-2085 psi	Water	UV

Design Name: F84L-3, F88-3 (Liquid) NBCert # 28145

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/15/2027

**Design Type**

[Safety Relief Valve] F84L-3, F88-3 (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on August 12, 2014  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.070 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Annulus  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 in	1 in	0.065 in <sup>2</sup>	[-3] 0.577 in	0.27 in	50-8382 psi	Water	UV

Design Name: F84L-4, F88-4 (Liquids) NBCert # 28044

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

12/18/2029

**Design Type**

[Relief Valve] F84L-4, F88-4 (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on December 18, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.790 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Annular  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.116 in <sup>2</sup>	[4] 0.577 in	0.27 in	30-8382 psi	Water	UV

Design Name:	F88-3	NBCert #	28134
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	01/15/2027
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**Design Type**

[Safety Valve] F88-3  
Capacity Tests: Sec. UV at National Board Testing Lab on September 4, 2014  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.060 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Annulus  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 in	1 in	0.065 in <sup>2</sup>	[-3] 0.546 in	0.27 in	50-4292 psi	Air	UV

Design Name:	F88-4	NBCert #	28088
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	09/26/2025
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**Design Type**

[Safety Relief Valve] F88-4  
Capacity Tests: Sec. UV at National Board Testing Lab on October 20, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.870 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Annulus  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.116 in <sup>2</sup>	0.577 in	0.27 in	50-4292 psi	Air	UV

Design Name:	F88-8	NBCert #	28077
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	01/08/2027
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**Design Type**

[Safety Relief Valve] F88-8  
Capacity Tests: Sec. UV at National Board Testing Lab on October 20, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 4.200 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.261 in <sup>2</sup>	0.577 in	0.27 in	50-4292 psi	Air	UV

Design Name: F88-G	NBCert # 28112
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

12/21/2028

**Design Type**

[Safety Valve] F88-G  
Capacity Tests: Sec. UV at National Board Testing Lab on November 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:10.300 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.663 in <sup>2</sup>	[G] 0.919 in	0.34 in	50-3705 psi	Air	UV

Design Name: F88-J	NBCert # 28101
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

12/21/2028

**Design Type**

[Safety Valve] F88-J  
Capacity Tests: Sec. UV at National Board Testing Lab on November 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:27.100 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Flow-Safe, Inc. {FLW}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	1.69 in <sup>2</sup>	[J] 1.467 in	0.6 in	50-2700 psi	Air	UV

## Fluid Mechanics Valve Company (FMV)

Nameplate Abbreviation: F/M

Houston, TX 77041United States

### This Company Manufactures or Assembles:

Design Name: 1511, 1521, 1611, 1621		NBCert # 25007
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/13/2026
Design Type		
[Safety Relief Valve] 1511, 1521, 1611, 1621 Capacity Tests: Sec. UV at Dresser, Inc. on June 20, 1989 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.654 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Fluid Mechanics Valve Company {FMV}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-2 NPS	.75 - 2.5 NPS		0.25 in	0.0625 in	40-15000 psi	Air	UV

Design Name: 1513, 1523, 1613, 1623		NBCert # 25018
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/13/2026
Design Type		
[Safety Relief Valve] 1513, 1523, 1613, 1623 Capacity Tests: Sec. UV at Dresser, Inc. on June 20, 1989 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.577 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Fluid Mechanics Valve Company {FMV}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-2 NPS	1 - 2.5 NPS		0.375 in	0.0937 in	40-6000 psi	Air	UV

Design Name: 1524 - 1548, 1624 - 1648		NBCert # 25029
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/15/2026

### Design Type

[Safety Relief Valve] 1524 - 1548, 1624 - 1648  
Capacity Tests: Sec. UV at Dresser, Inc. on June 20, 1989  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.842 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: Fluid Mechanics Valve Company {FMV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	1.5 - 3 NPS	0.196 in <sup>2</sup>	0.5 in	0.125 in	40-7500 psi	Air	UV
1-2 NPS	1.5 - 3 NPS	0.307 in <sup>2</sup>	0.625 in	0.156 in	40-6000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.503 in <sup>2</sup>	0.8 in	0.2 in	40-3800 psi	Air	UV
1.5-3 NPS	2 - 4 NPS	0.785 in <sup>2</sup>	1 in	0.25 in	40-3000 psi	Air	UV
2-4 NPS	2.5 - 4 NPS	1.289 in <sup>2</sup>	1.281 in	0.32 in	40-1100 psi	Air	UV

Design Name: 3900 Model (392 Series), .250 Soft Seat NBCert # 25063

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

12/15/2026

### Design Type

[Relief Valve] 3900 Model (392 Series), .250 Soft Seat  
Capacity Tests: Sec. UV at National Board Testing Lab on October 29, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.797 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Fluid Mechanics Valve Company {FMV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.5 NPS	0.049 in <sup>2</sup>	0.25 in	0.087 in	75-2000 psi	Water	UV

Design Name: 4000 & 4200 (.312 soft seat) NBCert # 25030

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

03/31/2027

### Design Type

[Safety Relief Valve] 4000 & 4200 (.312 soft seat)  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on September 3, 1987  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.340 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Fluid Mechanics Valve Company {FMV}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-2 NPS	.75 - 2 NPS		0.312 in	0.078 in	50-6000 psi	Air	UV



Design Name:		4000 & 4200 Model (405 & 425)		NBCert #	25041		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			08/13/2026	
Design Type							
[Safety Relief Valve] 4000 & 4200 Model (405 & 425) Capacity Tests: Sec. UV at unknown lab on May 4, 1983 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.240 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Fluid Mechanics Valve Company {FMV}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-2 NPS	1 - 2 NPS	0.15 in²	0.437 in	0.109 in	50-3500 psi	Air	UV

Freedom Valve Solutions LLC (FVS)	Nameplate Abbreviation: Freedom Valve Solutions
Odessa, TX 79764United States	

### This Company Manufactures or Assembles:

Design Name: 459/462				NBCert # 37112			
Manufacturer/Assembler		Designators		Expiration Date			
Assembler		UV		12/18/2029			
Design Type							
[Safety Relief Valve] 459/462 Capacity Tests: Sec. UV at National Board Testing Lab on February 17, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.811 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in²	0.236 in	0.043 in	15-13780 psi	Air	UV
0.5-1.8125 NPS	1-2 NPS	0.0438 in²	0.236 in	0.043 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in²	0.354 in	0.08 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in²	0.354 in	0.08 in	15-6175 psi	Air	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in²	0.512 in	0.118 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in²	0.512 in	0.118 in	15-2940 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in²	0.689 in	0.159 in	15-1470 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in²	0.689 in	0.159 in	15-1470 psi	Steam	UV

Design Name:	459/462 liquids	NBCert #	37101
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/18/2029

#### Design Type

[Relief Valve] 459/462 liquids  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.566 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Water	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Water	UV
0.5-1.5 NPS	1-2.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Water	UV
1-2 NPS	1.5-2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Water	UV

Design Name:	526	NBCert #	37224
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/18/2029

#### Design Type

[Safety Relief Valve] 526  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 22, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Air	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-2900 psi	Steam	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Air	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Air	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-2900 psi	Steam	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Air	UV

3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Steam	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Air	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Steam	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Air	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Steam	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Air	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Steam	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Air	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Steam	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Air	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Steam	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Air	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Steam	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Air	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Steam	UV

## GLM Energy Services, LLC (GCM)

Nameplate Abbreviation: GLM Energy Services

Kenai, AK 99611United States

### This Company Manufactures or Assembles:

Design Name:	1700 & 2700	NBCert #	18100
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	V	07/31/2025

### Design Type

[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V

2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name: 1811, 1511	NBCert # 18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	06/19/2025
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#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV

2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	07/10/2025	

Design Type
[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.670 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	07/10/2025
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#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV

8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name:	19000 Series	NBCert #	18706
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/10/2025

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV

2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/10/2025

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 NBCert # 18144

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/10/2025



### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV

07/10/2025

### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV

07/10/2025

### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/10/2025

Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 1982 NBCert # 18379

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/10/2025

Design Type

[Safety Relief Valve] 1982  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab (Picaway) on May 6, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Air	NV, UV
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Steam	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Air	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Steam	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Air	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Air	NV, UV

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/10/2025

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

07/10/2025

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV

1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Goetze KG Armaturen (GTZ)

71636 Ludwigsburg, Germany

**This Company Manufactures or Assembles:**

Design Name:	2400 / 2480	NBCert #	96072
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/13/2029

### Design Type

[Safety Relief Valve] 2400 / 2480  
Capacity Tests: Sec. UV at National Board Testing Lab on July 14, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.798 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS	.375 NPS	0.0438 in <sup>2</sup>	0.2362 in	0.0787 in	40-1015 psi	Air	UV
0.25 NPS	.375 NPS	0.0438 in <sup>2</sup>	0.2362 in	0.0787 in	40-1015 psi	Steam	UV
0.375 NPS	.50 NPS	0.0685 in <sup>2</sup>	0.2953 in	0.0984 in	40-1015 psi	Air	UV
0.375 NPS	.50 NPS	0.0685 in <sup>2</sup>	0.2953 in	0.0984 in	40-1015 psi	Steam	UV
0.5 NPS	.75 NPS	0.1342 in <sup>2</sup>	0.4134 in	0.1378 in	40-1015 psi	Air	UV
0.5 NPS	.75 NPS	0.1342 in <sup>2</sup>	0.4134 in	0.1378 in	40-1015 psi	Steam	UV
0.75 NPS	1.0 NPS	0.2057 in <sup>2</sup>	0.5118 in	0.1732 in	40-1015 psi	Air	UV
0.75 NPS	1.0 NPS	0.2057 in <sup>2</sup>	0.5118 in	0.1732 in	40-1015 psi	Steam	UV
1.25 NPS	1.5 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.2362 in	40-725 psi	Air	UV
1.25 NPS	1.5 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.2362 in	40-725 psi	Steam	UV
1.5 NPS	2.0 NPS	0.644 in <sup>2</sup>	0.9055 in	0.3071 in	40-725 psi	Air	UV
1.5 NPS	2.0 NPS	0.644 in <sup>2</sup>	0.9055 in	0.3071 in	40-725 psi	Steam	UV

Design Name:	2400 / 2480 Liquids	NBCert #	96083
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/12/2029

### Design Type

[Safety Relief Valve] 2400 / 2480 Liquids  
Capacity Tests: Sec. UV at National Board Testing Lab on July 12, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.571 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.1342 in <sup>2</sup>	0.4134 in	0.1378 in	40-1015 psi	Water	UV
0.75 NPS	1.0 NPS	0.2057 in <sup>2</sup>	0.5118 in	0.1732 in	40-1015 psi	Water	UV
1.25 NPS	1.5 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.2362 in	40-725 psi	Water	UV
1.5 NPS	2.0 NPS	0.644 in <sup>2</sup>	0.9055 in	0.3071 in	40-725 psi	Water	UV

Design Name: 4000		NBCert #	96151
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	12/13/2029
Design Type			
[Safety Relief Valve] 4000 Capacity Tests: Sec. UV at National Board Testing Lab on June 26, 2017 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.680 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Goetze KG Armaturen {GTZ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
25 DN	40 DN	0.644 in <sup>2</sup>	0.9055 in	0.2598 in	15-232 psi	Air	UV
25 DN	40 DN	0.644 in <sup>2</sup>	0.9055 in	0.2598 in	15-232 psi	Steam	UV
40 DN	65 DN	1.666 in <sup>2</sup>	1.457 in	0.374 in	15-232 psi	Air	UV
40 DN	65 DN	1.666 in <sup>2</sup>	1.457 in	0.374 in	15-232 psi	Steam	UV
50 DN	80 DN	2.576 in <sup>2</sup>	1.811 in	0.472 in	15-232 psi	Air	UV
50 DN	80 DN	2.576 in <sup>2</sup>	1.811 in	0.472 in	15-232 psi	Steam	UV
65 DN	100 DN	4.3825 in <sup>2</sup>	2.362 in	0.63 in	15-232 psi	Air	UV
65 DN	100 DN	4.3825 in <sup>2</sup>	2.362 in	0.63 in	15-232 psi	Steam	UV
80 DN	125 DN	6.666 in <sup>2</sup>	2.913 in	0.787 in	15-232 psi	Air	UV
80 DN	125 DN	6.666 in <sup>2</sup>	2.913 in	0.787 in	15-232 psi	Steam	UV
100 DN	150 DN	10.3038 in <sup>2</sup>	3.622 in	0.945 in	15-232 psi	Air	UV
100 DN	150 DN	10.3038 in <sup>2</sup>	3.622 in	0.945 in	15-232 psi	Steam	UV

Design Name: 4000 (Liquids)		NBCert #	96162
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	12/13/2029
Design Type			
[Relief Valve] 4000 (Liquids) Capacity Tests: Sec. UV at National Board Testing Lab on June 27, 2017 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.452 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Goetze KG Armaturen {GTZ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
25 DN	40 DN	0.644 in <sup>2</sup>	0.9055 in	0.2598 in	15-232 psi	Water	UV
40 DN	65 DN	1.666 in <sup>2</sup>	1.457 in	0.374 in	15-232 psi	Water	UV
50 DN	80 DN	2.576 in <sup>2</sup>	1.811 in	0.472 in	15-232 psi	Water	UV
65 DN	100 DN	4.3825 in <sup>2</sup>	2.362 in	0.63 in	15-232 psi	Water	UV

80 DN	125 DN	6.666 in <sup>2</sup>	2.913 in	0.787 in	15-232 psi	Water	UV
100 DN	150 DN	10.3038 in <sup>2</sup>	3.622 in	0.945 in	15-232 psi	Water	UV

Design Name:	4020, 4040, 4060	NBCert #	96230
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 04/19/2028

#### Design Type

[Safety Relief Valve] 4020, 4040, 4060  
Capacity Tests: Sec. UV at National Board Testing Lab on December 10, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 6.220 SCFM/PSIA; (alternate medium): 17.460 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
25 DN	25 DN	0.7307 in <sup>2</sup>	0.9646 in	0.197 in	15-232 psi	Air	UV
25 DN	25 DN	0.7307 in <sup>2</sup>	0.9646 in	0.197 in	15-232 psi	Steam	UV

Design Name:	4020, 4040, 4060 (Liquid)	NBCert #	96241
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/25/2028

#### Design Type

[Safety Relief Valve] 4020, 4040, 4060 (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on May 10, 2022  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 9.220 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
25 DN	25 DN	0.7307 in <sup>2</sup>	0.9646 in	0.197 in	15-232 psi	Water	UV

Design Name:	410, 810, 1809, 1810	NBCert #	96094
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/13/2029

#### Design Type

[Safety Relief Valve] 410, 810, 1809, 1810  
Capacity Tests: Sec. UV at National Board Testing Lab on October 31, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.0685 in <sup>2</sup>	0.295 in	0.089 in	15-725 psi	Air	UV
0.375 NPS		0.1217 in <sup>2</sup>	0.394 in	0.118 in	15-725 psi	Air	UV
0.5 NPS		0.1473 in <sup>2</sup>	0.433 in	0.13 in	15-725 psi	Air	UV
0.75 NPS		0.3116 in <sup>2</sup>	0.63 in	0.189 in	15-725 psi	Air	UV
1 NPS		0.4869 in <sup>2</sup>	0.787 in	0.236 in	15-725 psi	Air	UV
1.25 NPS		0.7609 in <sup>2</sup>	0.9843 in	0.2756 in	30-232 psi	Air	UV
1.5 NPS		1.2466 in <sup>2</sup>	1.2598 in	0.3543 in	30-232 psi	Air	UV
2 NPS		1.9478 in <sup>2</sup>	1.5748 in	0.3937 in	30-232 psi	Air	UV

Design Name:	451, 851	NBCert #	96038
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 05/05/2028

#### Design Type

[Safety Relief Valve] 451, 851  
Capacity Tests: Sec. UV at National Board Testing Lab on October 23, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.659 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-0.75 NPS	1.25 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.2087 in	15-1015 psi	Air	UV
1-1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.9055 in	0.2402 in	15-1015 psi	Air	UV
1.25-1.25 NPS	2 NPS	1.1177 in <sup>2</sup>	1.1929 in	0.311 in	15-1015 psi	Air	UV

Design Name:	451, 851 Liquids	NBCert #	96049
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/12/2029

#### Design Type

[Safety Relief Valve] 451, 851 Liquids  
Capacity Tests: Sec. UV at National Board Testing Lab on July 12, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.492 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-0.75 NPS	1.25 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.2087 in	15-1015 psi	Water	UV
1-1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.9055 in	0.2402 in	15-1015 psi	Water	UV
1.25-2 NPS	1.1177 NPS	1.1177 in <sup>2</sup>	1.1929 in	0.311 in	15-1015 psi	Water	UV

Design Name: 451-1/2", 851-1/2"		NBCert #	96050
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	10/03/2028
Design Type			
[Safety Relief Valve] 451-1/2", 851-1/2" Capacity Tests: Sec. UV at National Board Testing Lab on October 21, 2015 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.470 SCFM/PSIA; (alternate medium): 6.940 PPH/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Goetze KG Armaturen {GTZ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.5 NPS	1 NPS	0.3039 in <sup>2</sup>	0.622 in	0.0866 in	15-1015 psi	Air	UV

Design Name: 451-1/2", 851-1/2" (Liquids)		NBCert #	96061
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	05/04/2028
Design Type			
[Safety Relief Valve] 451-1/2", 851-1/2" (Liquids) Capacity Tests: Sec. UV at National Board Testing Lab on October 21, 2015 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.046 GPM/SQ. RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Goetze KG Armaturen {GTZ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.5 NPS	1 NPS	0.3039 in <sup>2</sup>	0.622 in	0.0866 in	15-1015 psi	Water	UV

Design Name: 460		NBCert #	96218
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	05/27/2027
Design Type			
[Safety Relief Valve] 460 Capacity Tests: Sec. UV at National Board Testing Lab on November 5, 2019 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.549 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Goetze KG Armaturen {GTZ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375 NPS	0.375 NPS	0.986 in <sup>2</sup>	0.3543 in	0.0886 in	30-362 psi	Air	UV
0.375 NPS	0.375 NPS	0.986 in <sup>2</sup>	0.3543 in	0.0886 in	30-362 psi	Steam	UV

0.5 NPS	0.5 NPS	0.2057 in <sup>2</sup>	0.5118 in	0.128 in	30-362 psi	Air	UV
0.5 NPS	0.5 NPS	0.2057 in <sup>2</sup>	0.5118 in	0.128 in	30-362 psi	Steam	UV
0.75 NPS	0.75 NPS	0.2739 in <sup>2</sup>	0.5906 in	0.1476 in	30-362 psi	Air	UV
0.75 NPS	0.75 NPS	0.2739 in <sup>2</sup>	0.5906 in	0.1476 in	30-362 psi	Steam	UV
1 NPS	1 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.177 in	30-362 psi	Air	UV
1 NPS	1 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.177 in	30-362 psi	Steam	UV

Design Name:	460 (Liquid)	NBCert #	96229
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/03/2026

#### Design Type

[Safety Relief Valve] 460 (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on December 13, 2019  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.410 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	0.5 NPS	0.2057 in <sup>2</sup>	0.5118 in	0.128 in	43-362 psi	Water	UV
0.75 NPS	0.75 NPS	0.2739 in <sup>2</sup>	0.5906 in	0.1476 in	43-362 psi	Water	UV
1 NPS	1 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.177 in	43-362 psi	Water	UV

Design Name:	492	NBCert #	96252
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 04/19/2028

#### Design Type

[Safety Relief Valve] 492  
Capacity Tests: Sec. UV at National Board Testing Lab on January 10, 2022  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas; Certified: Air/Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.75 NPS	0.5-1 NPS	0.011 in <sup>2</sup>	0.1181 in	0.0866 in	2175-21750 psi	Air	UV
0.25-1 NPS	0.5-1 NPS	0.0247 in <sup>2</sup>	0.1772 in	0.0866 in	1450-14500 psi	Air	UV
0.25-1 NPS	0.5-1 NPS	0.0438 in <sup>2</sup>	0.2362 in	0.1181 in	725-9135 psi	Air	UV
0.375-1 NPS	0.5-1 NPS	0.0986 in <sup>2</sup>	0.3543 in	0.1181 in	725-3625 psi	Air	UV

Design Name: 642/6420 (1-1/2" to 2-1/2"), 645/6450 (1-1/4" to 2")		NBCert #	96195
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	05/16/2030
Design Type			
[Safety Relief Valve] 642/6420 (1-1/2" to 2-1/2"), 645/6450 (1-1/4" to 2") Capacity Tests: Sec. UV at National Board Testing Lab on November 8, 2017 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.546 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Goetze KG Armaturen {GTZ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.25 NPS	1.0956 in <sup>2</sup>	1.1811 in	0.2756 in	15-232 psi	Air	UV
1.25-1.5 NPS	1.25 NPS	1.0956 in <sup>2</sup>	1.1811 in	0.2756 in	15-232 psi	Steam	UV
1.5-2 NPS	2 NPS	1.8516 in <sup>2</sup>	1.5354 in	0.3543 in	15-232 psi	Steam	UV
1.5-2 NPS	2 NPS	1.8516 in <sup>2</sup>	1.5354 in	0.3543 in	15-232 psi	Air	UV
2-2.5 NPS	2.5 NPS	2.8048 in <sup>2</sup>	1.8898 in	0.4449 in	15-232 psi	Air	UV
2-2.5 NPS	2.5 NPS	2.8048 in <sup>2</sup>	1.8898 in	0.4449 in	15-232 psi	Steam	UV

Design Name: 642/6420 (1-1/2" to 2-1/2"), 645/6450 (1-1/4" to 2") (Liquid)		NBCert #	96207
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	05/15/2030	
Design Type			
[Relief Valve] 642/6420 (1-1/2" to 2-1/2"), 645/6450 (1-1/4" to 2") (Liquid) Capacity Tests: Sec. UV at National Board Testing Lab on November 7, 2017 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.359 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Goetze KG Armaturen {GTZ}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	1.096 in <sup>2</sup>	1.181 in	0.276 in	15-232 psi	Water	UV
1.5-2 NPS	2 NPS	1.8516 in <sup>2</sup>	1.5354 in	0.3543 in	15-232 psi	Water	UV
2-2.5 NPS	2.5 NPS	2.8048 in <sup>2</sup>	1.8898 in	0.4449 in	15-232 psi	Water	UV

Design Name:	642/6420/4420 (1/2" to 1-1/4"), 645/6450/4450 (1/2" to 1")	NBCert #	96139
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	05/16/2030	

**Design Type**

[Safety Relief Valve] 642/6420/4420 (1/2" to 1-1/4"), 645/6450/4450 (1/2" to 1")  
Capacity Tests: Sec. UV at National Board Testing Lab on November 6, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.650 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	0.5, 0.75 NPS	0.2057 in <sup>2</sup>	0.5118 in	0.13 in	15-232 psi	Air	UV
0.5 NPS	0.5, 0.75 NPS	0.2057 in <sup>2</sup>	0.5118 in	0.13 in	15-232 psi	Steam	UV
0.75 NPS	0.75 NPS	0.2739 in <sup>2</sup>	0.5906 in	0.1457 in	15-232 psi	Air	UV
0.75 NPS	0.75 NPS	0.2739 in <sup>2</sup>	0.5906 in	0.1457 in	15-232 psi	Steam	UV
0.75-1 NPS	1 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.1693 in	15-232 psi	Air	UV
0.75-1 NPS	1 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.1693 in	15-232 psi	Steam	UV
1-1.25 NPS	1.25 NPS	0.644 in <sup>2</sup>	0.9055 in	0.2323 in	15-232 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.644 in <sup>2</sup>	0.9055 in	0.2323 in	15-232 psi	Steam	UV

Design Name: 642/6420/4420 (1/2" to 1-1/4"), 645/6450/4450 (1/2" to 1") (Liquid) NBCert # 96140

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/15/2030

**Design Type**

[Relief Valve] 642/6420/4420 (1/2" to 1-1/4"), 645/6450/4450 (1/2" to 1") (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on November 7, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.429 Unitless  
Media - Test: Air/Gas, Steam; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.5, .75 NPS	0.2057 in <sup>2</sup>	0.5118 in	0.13 in	15-232 psi	Water	UV
0.75 NPS	.75 NPS	0.2739 in <sup>2</sup>	0.5906 in	0.1457 in	15-232 psi	Water	UV
0.75-1 NPS	1 NPS	0.3944 in <sup>2</sup>	0.7087 in	0.1693 in	15-232 psi	Water	UV
1-1.25 NPS	1.25 NPS	0.644 in <sup>2</sup>	0.9055 in	0.2323 in	15-232 psi	Water	UV

Design Name: 812, 412, 1812 NBCert # 96005

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/20/2025

## Design Type

[Safety Relief Valve] 812, 412, 1812  
Capacity Tests: Sec. UV at National Board Testing Lab on August 14, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.774 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.238 in <sup>2</sup>	0.551 in	0.138 in	15-725 psi	Air	UV
0.75 NPS		0.486 in <sup>2</sup>	0.787 in	0.197 in	15-725 psi	Air	UV
1 NPS		0.701 in <sup>2</sup>	0.945 in	0.236 in	15-725 psi	Air	UV
1.25-1.5 NPS		1.17 in <sup>2</sup>	1.22 in	0.305 in	15-725 psi	Air	UV

Design Name: 812-2", 412-2" NBCert # 96106

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/12/2029

## Design Type

[Safety Relief Valve] 812-2", 412-2"  
Capacity Tests: Sec. UV at National Board Testing Lab on July 13, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 30.116 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Goetze KG Armaturen {GTZ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.8005 in <sup>2</sup>	1.8883 in	0.315 in	15-435 psi	Air	UV

## Gulf Valve Service Company (GVS)

Baton Rouge, LA 70817 United States

### This Company Manufactures or Assembles:

Design Name: 1541, 1543, 1541-3, 1543-3 NBCert # 18032

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	08/16/2027

## Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	08/26/2028
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#### Design Type

[Safety Valve] 1811, 1511  
 Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.877 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V

1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 08/16/2027

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V



6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35 NBCert # 18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/16/2027

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV

6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201) NBCert # 18223

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/13/2027

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV

Design Name: 19000 Series NBCert # 18706

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/16/2027

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV

0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert #

18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/14/2028

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV

1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 NBCert # 18144

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/29/2028

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/26/2028

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/29/2028

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	08/16/2027

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 1982 NBCert # 18379

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/29/2028

#### Design Type

[Safety Relief Valve] 1982  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab (Picaway) on May 6, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Air	NV, UV
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Steam	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Air	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Steam	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Air	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Air	NV, UV

## Hansen Technologies Corporation (HTL)

Nameplate Abbreviation: HANSEN

Commerce, GA 30529United States

### This Company Manufactures or Assembles:

Design Name: EZB		NBCert # 70108	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/23/2029
Design Type			
[Safety Relief Valve] EZB Capacity Tests: Sec. UV at National Board Testing Lab on October 31, 2011 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.781 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Bubble Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Hansen Technologies Corporation {HTL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.083 in <sup>2</sup>	0.326 in	0.082 in	150-600 psi	Air	UV

Design Name: EZC		NBCert # 70096	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/16/2029
Design Type			
[Safety Relief Valve] EZC Capacity Tests: Sec. UV at National Board Testing Lab on May 9, 2011 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.630 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Bubble Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Hansen Technologies Corporation {HTL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.169 in <sup>2</sup>	0.464 in		150-600 psi	Air	UV

Design Name: EZE		NBCert # 70120	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	08/07/2029

**Design Type**

[Safety Relief Valve] EZE  
Capacity Tests: Sec. UV at National Board Testing Lab on January 12, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.100 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Bubble  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Hansen Technologies Corporation {HTL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS	1.25, 1.5 NPS	0.224 in <sup>2</sup>	0.534 in	0.134 in	150-400 psi	Air	UV

Design Name: EZF	NBCert # 70131
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

08/07/2029

**Design Type**

[Safety Relief Valve] EZF  
Capacity Tests: Sec. UV at National Board Testing Lab on February 16, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.500 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Bubble  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Hansen Technologies Corporation {HTL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS	1.25, 1.5 NPS	0.267 in <sup>2</sup>	0.583 in	0.146 in	150-400 psi	Air	UV

Design Name: EZLQ	NBCert # 70085
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/16/2029

**Design Type**

[Safety Relief Valve] EZLQ  
Capacity Tests: Sec. UV at National Board Testing Lab on October 31, 2011  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.790 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Hansen Technologies Corporation {HTL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.102 in <sup>2</sup>	0.36 in	0.09 in	50-125 psi	Water	UV

Design Name: H5600, H5601 & H5602	NBCert # 70018
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/02/2026



**Design Type**

[Safety Relief Valve] H5600, H5601 & H5602  
Capacity Tests: Sec. UV at National Board Testing Lab on March 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.650 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Hansen Technologies Corporation {HTL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	0.208 in <sup>2</sup>	0.515 in	0.125 in	150-350 psi	Air	UV

Design Name:	H5600A	NBCert #	70030
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/24/2026

**Design Type**

[Safety Relief Valve] H5600A  
Capacity Tests: Sec. UV at National Board Testing Lab on March 23, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.320 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Hansen Technologies Corporation {HTL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.172 in <sup>2</sup>	0.515 in	0.125 in	150-400 psi	Air	UV

Design Name:	H5600R, H5602R	NBCert #	70041
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/24/2026

**Design Type**

[Safety Relief Valve] H5600R, H5602R  
Capacity Tests: Sec. UV at National Board Testing Lab on January 17, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.781 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Hansen Technologies Corporation {HTL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.0498 in <sup>2</sup>	0.515 in	0.125 in	150-400 psi	Air	UV

Design Name:	H5604	NBCert #	70029
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/04/2026

**Design Type**

[Safety Relief Valve] H5604  
Capacity Tests: Sec. UV at National Board Testing Lab on August 25, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.330 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Hansen Technologies Corporation {HTL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS		0.441 in <sup>2</sup>	0.75 in	0.125 in	150-400 psi	Air	UV

Design Name:	H5613	NBCert #	70007
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/04/2026

**Design Type**

[Safety Relief Valve] H5613  
Capacity Tests: Sec. UV at National Board Testing Lab on July 7, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.920 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Hansen Technologies Corporation {HTL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS	0.312 in <sup>2</sup>	0.75 in	0.125 in	100-400 psi	Air	UV

Design Name:	H5632R	NBCert #	70052
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/24/2026

**Design Type**

[Safety Relief Valve] H5632R  
Capacity Tests: Sec. UV at National Board Testing Lab on April 22, 2003  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.630 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Hansen Technologies Corporation {HTL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.102 in <sup>2</sup>	0.515 in	0.125 in	150-400 psi	Air	UV

Design Name:	H5633R	NBCert #	70063
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/24/2026

Design Type							
[Safety Relief Valve] H5633R Capacity Tests: Sec. UV at National Board Testing Lab on January 17, 2003 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.100 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Hansen Technologies Corporation {HTL}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS	0.138 in²	0.75 in	0.125 in	150-400 psi	Air	UV

Design Name: H5634R		NBCert # 70074
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/04/2026

Design Type							
[Safety Relief Valve] H5634R Capacity Tests: Sec. UV at National Board Testing Lab on April 29, 2003 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.500 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Hansen Technologies Corporation {HTL}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.162 in²	0.75 in	0.125 in	150-400 psi	Air	UV

Hansom (Nanjing) Technologies Co., Ltd. (JRM)										Nameplate Abbreviation: HANSOM	
Nanjing, Jiangsu Province, 211316People's Republic of China											

This Company Manufactures or Assembles:

Design Name: IN-P, HO-F Series (12"-100" NPS)		NBCert # 01540
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/28/2030
Design Type		
[Buckling Pin Non-reclosing Device] IN-P, HO-F Series (12"-100" NPS) Capacity Tests: Sec. UD at National Board Testing Lab on August 14, 2017 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 1.120 Unitless Media - Test: Air/Gas; Certified: Compressible and Incompressible (KrgI) Set Pressure Definition: Buckling Pressure Flow Area Configuration: MNFA Designed by: Hansom (Nanjing) Technologies Co., Ltd. {JRM} Comments: The flow areas published are for Class 150 flanges. Please consult manufacturer for flow area of other flange classes.		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
12 NPS	12 NPS	78.776 in <sup>2</sup>			0.5-2250 psi	Air	UD
14 NPS	14 NPS	97.342 in <sup>2</sup>			0.5-2250 psi	Air	UD
16 NPS	16 NPS	143.464 in <sup>2</sup>			0.5-2250 psi	Air	UD
18 NPS	18 NPS	178.071 in <sup>2</sup>			0.5-2250 psi	Air	UD
20 NPS	20 NPS	224.149 in <sup>2</sup>			0.5-2250 psi	Air	UD
22 NPS	22 NPS	275.579 in <sup>2</sup>			0.5-2250 psi	Air	UD
24 NPS	24 NPS	330.358 in <sup>2</sup>			0.5-2250 psi	Air	UD
26 NPS	26 NPS	381.907 in <sup>2</sup>			0.5-1440 psi	Air	UD
28 NPS	28 NPS	450.438 in <sup>2</sup>			0.5-1440 psi	Air	UD
30 NPS	30 NPS	524.62 in <sup>2</sup>			0.5-1440 psi	Air	UD
32 NPS	32 NPS	604.455 in <sup>2</sup>			0.5-1440 psi	Air	UD
34 NPS	34 NPS	689.941 in <sup>2</sup>			0.5-1440 psi	Air	UD
36 NPS	36 NPS	781.08 in <sup>2</sup>			0.5-1440 psi	Air	UD
38 NPS	38 NPS	877.87 in <sup>2</sup>			0.5-1440 psi	Air	UD
40 NPS	40 NPS	980.313 in <sup>2</sup>			0.5-1440 psi	Air	UD
42 NPS	42 NPS	1088.41 in <sup>2</sup>			0.5-1440 psi	Air	UD
44 NPS	44 NPS	1202.15 in <sup>2</sup>			0.5-1440 psi	Air	UD
46 NPS	46 NPS	1321.55 in <sup>2</sup>			0.5-1440 psi	Air	UD
48 NPS	48 NPS	1446.6 in <sup>2</sup>			0.5-1440 psi	Air	UD
50 NPS	50 NPS	1577.31 in <sup>2</sup>			0.5-720 psi	Air	UD
52 NPS	52 NPS	1713.66 in <sup>2</sup>			0.5-720 psi	Air	UD
54 NPS	54 NPS	1855.67 in <sup>2</sup>			0.5-720 psi	Air	UD
56 NPS	56 NPS	2003.33 in <sup>2</sup>			0.5-720 psi	Air	UD
58 NPS	58 NPS	2156.64 in <sup>2</sup>			0.5-720 psi	Air	UD
60 NPS	60 NPS	2315.6 in <sup>2</sup>			0.5-720 psi	Air	UD
64 NPS	64 NPS	2650.48 in <sup>2</sup>			0.5-720 psi	Air	UD
68 NPS	68 NPS	3007.97 in <sup>2</sup>			0.5-720 psi	Air	UD
72 NPS	72 NPS	3388.07 in <sup>2</sup>			0.5-720 psi	Air	UD
78 NPS	78 NPS	3670.33 in <sup>2</sup>			0.5-720 psi	Air	UD
100 NPS	100 NPS	6405.6 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD
80 NPS	80 NPS	3888.58 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD
82 NPS	82 NPS	4122.38 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD
84 NPS	84 NPS	4353.62 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD
86 NPS	86 NPS	4592.44 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD
88 NPS	88 NPS	4832.84 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD
90 NPS	90 NPS	5080.44 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD
92 NPS	92 NPS	5335.32 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD
94 NPS	94 NPS	5597.56 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD
96 NPS	96 NPS	5859.99 in <sup>2</sup>		0 in	0.5-720 psi	Air	UD

98 NPS	98 NPS	6129.32 in²	0 in	0.5-720 psi	Air	UD
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Design Name:	IN-P, HO-F Series (2"-10" NPS)	NBCert #	00897
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	03/31/2029

Design Type
[Buckling Pin Non-reclosing Device] IN-P, HO-F Series (2"-10" NPS) Capacity Tests: Sec. UD at National Board Testing Lab on April 22, 2016 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value:21.360 Unitless Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Buckling Pressure Flow Area Configuration: MNFA Designed by: Hansom (Nanjing) Technologies Co., Ltd. {JRM} Comments: The flow areas published are for Class 150 flanges. Please consult manufacturer for flow area of other flange classes.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS	10 NPS	53.385 in²			0.5-2250 psi	Air	UD
2 NPS	2 NPS	1.557 in²			0.5-2250 psi	Air	UD
2.5 NPS	2.5 NPS	2.097 in²			0.5-2250 psi	Air	UD
3 NPS	3 NPS	3.816 in²			0.5-2250 psi	Air	UD
4 NPS	4 NPS	6.458 in²			0.5-2250 psi	Air	UD
6 NPS	6 NPS	17.441 in²			0.5-2250 psi	Air	UD
8 NPS	8 NPS	32.375 in²			0.5-2250 psi	Air	UD

Henry Technologies Ltd (HNL)	Nameplate Abbreviation: HENRY
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Glasgow, Scotland, G52 4XZUnited Kingdom

This Company Manufactures or Assembles:

Design Name:	5232A-S, 5240-S, 5242-S, 5340-S, 5342-S	NBCert #	01922
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/28/2030

Design Type
[Safety Relief Valve] 5232A-S, 5240-S, 5242-S, 5340-S, 5342-S Capacity Tests: Sec. UV at National Board Testing Lab on October 2, 2018 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.375 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Bubble Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Henry Technologies Ltd {HNL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
	.75 NPS	0.1104 in²	0.375 in	0.197 in	149.4-449.6 psi	Air	UV

Design Name: 5244S, 5244A-S, 5344S, 5344A-S, 5244P NBCert # 01696		
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	10/24/2025
Design Type		
[Safety Relief Valve] 5244S, 5244A-S, 5344S, 5344A-S, 5244P Capacity Tests: Sec. UV at National Board Testing Lab on May 9, 2019 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.530 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Bubble Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Henry Technologies Ltd {HNL}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	0.5 in	0.197 in	150-400 psi	Air	UV

Design Name: 5245-S, 5246-S, 5345-S, 5346-S, B5246 NBCert # 01933		
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/29/2030
Design Type		
[Safety Relief Valve] 5245-S, 5246-S, 5345-S, 5346-S, B5246 Capacity Tests: Sec. UV at National Board Testing Lab on October 3, 2018 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.456 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Bubble Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Henry Technologies Ltd {HNL}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS	1.250 NPS	0.3883 in <sup>2</sup>	0.703 in	0.197 in	149.4-449.6 psi	Air	UV

Design Name: 5603 NBCert # 29124		
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	10/29/2030
Design Type		
[Safety Relief Valve] 5603 Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on July 20, 1989 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.773 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Henry Technologies Ltd {HNL}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS	0.196 in <sup>2</sup>	0.5 in		150-450 psi	Air	UV

Design Name: 5604, 5604-YM, 5604-YP		NBCert #	29135
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	08/29/2030
Design Type			
[Safety Relief Valve] 5604, 5604-YM, 5604-YP Capacity Tests: Sec. UV at unknown lab on July 20, 1989 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.330 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Bubble Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Henry Technologies Ltd {HNL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.625 NPS	1.5, 1-7/8 NPS	0.388 in <sup>2</sup>	0.703 in		150-450 psi	Air	UV

Design Name: 5701AX, 5701GX		NBCert # 01775
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/28/2030
Design Type		
<div>[Safety Relief Valve] 5701AX, 5701GX</div> <div>Capacity Tests: Sec. UV at National Board Testing Lab on October 2, 2018</div> <div>Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method</div> <div>Certified Value: 0.808 SCFM/PSIA</div> <div>Media - Test: Air/Gas; Certified: Gas</div> <div>Set Pressure Definition: Bubble</div> <div>Blowdown Characteristics: Fixed</div> <div>Flow Area Configuration: Nozzle/Full Lift</div> <div>Designed by: Henry Technologies Ltd {HNL}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	0.75 NPS	0.0614 in <sup>2</sup>	0.2795 in	0.0984 in	667-1885 psi	Air	UV

Design Name: 5702, 5702A, 5702B, 5702C		NBCert #	01764
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	08/29/2030	
Design Type			
[Safety Relief Valve] 5702, 5702A, 5702B, 5702C Capacity Tests: Sec. UV at National Board Testing Lab on October 3, 2018 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.016 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Bubble Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Henry Technologies Ltd {HNL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.25 NPS	1 NPS	0.134 in <sup>2</sup>	0.4134 in	0.157 in	449.5-1885 psi	Air	UV

## HEROSE G.M.B.H. ARMATUREN UND METALLE (HEG)

Bad Oldesloe, 23843Germany

### This Company Manufactures or Assembles:

Design Name: 06002/06012 gas tight		NBCert # 91246
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/27/2027
Design Type		
[Safety Relief Valve] 06002/06012 gas tight Capacity Tests: Sec. UV at National Board Testing Lab on April 9, 2015 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.302 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS	.375 NPS	28.3 mm²	6 mm	0.8 mm	74-798 psi	Air	UV

Design Name: 06002/06012/06006/06016		NBCert # 91213
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/27/2027
Design Type		
[Safety Relief Valve] 06002/06012/06006/06016 Capacity Tests: Sec. UV at National Board Testing Lab on February 26, 2015 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.337 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS	.375 NPS	28.3 mm²	6 mm	0.9 mm	72-798 psi	Air	UV

Design Name: 06216/06217.0400		NBCert # 91178
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	10/23/2029



**Design Type**

[Safety Relief Valve] 06216/06217.0400  
Capacity Tests: Sec. UV at National Board Testing Lab on October 23, 2007  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.590 SCFM/PSIA  
Media - ; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		113.1 mm <sup>2</sup>	12 mm	3.6 mm	15-363 psi	Air	UV

Design Name: 06216/06217.1000 NBCert # 91123

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

04/18/2030

**Design Type**

[Safety Relief Valve] 06216/06217.1000  
Capacity Tests: Sec. UV at unknown lab on August 26, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 6.790 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	Side NPS	315 mm <sup>2</sup>	20 mm	7 mm	15-435 psi	Air	UV

Design Name: 06216/06217.1200 NBCert # 91134

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

04/18/2030

**Design Type**

[Safety Relief Valve] 06216/06217.1200  
Capacity Tests: Sec. UV at unknown lab on August 26, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.150 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS		492 mm <sup>2</sup>	25 mm	9 mm	15-319 psi	Air	UV

Design Name: 06216/06217.1400 NBCert # 91145

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

04/18/2030

**Design Type**

[Safety Relief Valve] 06216/06217.1400  
Capacity Tests: Sec. UV at unknown lab on August 26, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:16.500 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		805 mm <sup>2</sup>	32 mm <sup>2</sup>	12.5 mm	15-232 psi	Air	UV

Design Name: 06216/06217.2000 NBCert # 91156

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer UV 04/18/2030

**Design Type**

[Safety Relief Valve] 06216/06217.2000  
Capacity Tests: Sec. UV at unknown lab on August 26, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:24.800 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		1258 mm <sup>2</sup>	40 mm	15.1 mm	15-174 psi	Air	UV

Design Name: 06381/06386/06416 NBCert # 91224

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer UV 05/27/2027

**Design Type**

[Safety Relief Valve] 06381/06386/06416  
Capacity Tests: Sec. UV at National Board Testing Lab on February 26, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.700 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	86.6 mm <sup>2</sup>	10.5 mm	2.1 mm	30-363 psi	Air	UV

Design Name: 06388./06418./06383./06413.2312/2314/2320 NBCert # 91101

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer UV 04/18/2030

**Design Type**

[Safety Relief Valve] 06388./06418./06383./06413.2312/2314/2320  
Capacity Tests: Sec. UV at unknown lab on August 27, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.550 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	2 NPS	389.1 mm <sup>2</sup>	23 mm	4.8 mm	29-725 psi	Air	UV

Design Name: 06388/06418/06383/06413.0704/0706 NBCert # 91011

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

12/09/2026

**Design Type**

[Safety Relief Valve] 06388/06418/06383/06413.0704/0706  
Capacity Tests: Sec. UV at unknown lab on July 30, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.862 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	38.5 mm <sup>2</sup>	7 mm	1.5 mm	48-725 psi	Air	UV

Design Name: 06388/06418/06383/06413.1004/1006 NBCert # 91088

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

12/09/2026

**Design Type**

[Safety Relief Valve] 06388/06418/06383/06413.1004/1006  
Capacity Tests: Sec. UV at unknown lab on July 30, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.517 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	86.6 mm <sup>2</sup>	10.5 mm	2.2 mm	42-725 psi	Air	UV

Design Name: 06388/06418/06383/06413.1510 NBCert # 91077

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

12/09/2026

**Design Type**

[Safety Relief Valve] 06388/06418/06383/06413.1510  
Capacity Tests: Sec. UV at unknown lab on July 30, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.769 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS	176.6 mm <sup>2</sup>	15 mm	2.6 mm	48-725 psi	Air	UV

Design Name: 06420/06421/06425/06426/06440/06441/06445/06446.0704/0706 NBCert # 91189

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

05/01/2027

**Design Type**

[Safety Relief Valve] 06420/06421/06425/06426/06440/06441/06445/06446.0704/0706  
Capacity Tests: Sec. UV at National Board Testing Lab on October 1, 2014  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.892 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	38.5 mm <sup>2</sup>	7 mm	3 mm	29-725 psi	Air	UV

Design Name: 06420/06421/06425/06426/06440/06441/06445/06446.1004/1006 (10.5mm orifice) NBCert # 91190

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/07/2028

**Design Type**

[Safety Relief Valve] 06420/06421/06425/06426/06440/06441/06445/06446.1004/1006 (10.5mm orifice)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 18, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.698 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	86.6 mm <sup>2</sup>	10.5 mm	3 mm	35-725 psi	Air	UV

Design Name: 06420/06421/06425/06426/06440/06441/06445/06446.1406/1410 (14 mm orifice) NBCert # 91279

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/07/2028

**Design Type**

[Safety Relief Valve] 06420/06421/06425/06426/06440/06441/06445/06446.1406/.1410 (14 mm orifice)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 18, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.887 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1.25 NPS		14 mm	4 mm	35-580 psi	Air	UV

Design Name: 06420/06421/06425/06426/06440/06441/06445/06446.1406/1410 (14 mm orifice 15-34 NBCert # 91257 psi)

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

05/27/2027

**Design Type**

[Safety Relief Valve] 06420/06421/06425/06426/06440/06441/06445/06446.1406/1410 (14 mm orifice 15-34 psi)  
Capacity Tests: Sec. UV at National Board Testing Lab on February 27, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.820 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1.25 NPS	153.9 mm <sup>2</sup>	14 mm	4 mm	15-34 psi	Air	UV

Design Name: 06420/06421/06425/06426/06440/06441/06445/06446.1810/.1812 (18 mm orifice) NBCert # 91280

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/07/2028

**Design Type**

[Safety Relief Valve] 06420/06421/06425/06426/06440/06441/06445/06446.1810/.1812 (18 mm orifice)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 18, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 4.773 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS	1.5 NPS	245.5 mm <sup>2</sup>	18 mm	5 mm	38-580 psi	Air	UV

Design Name: 06420/06421/06425/06426/06440/06441/06445/06446.2312 (23 mm orifice) NBCert # 91202

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

05/27/2027

**Design Type**

[Safety Relief Valve] 06420/06421/06425/06426/06440/06441/06445/06446.2312 (23 mm orifice)  
Capacity Tests: Sec. UV at National Board Testing Lab on February 27, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 6.510 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	415.5 mm <sup>2</sup>	23 mm	6 mm	20-145 psi	Air	UV

**Hui Bao Enterprise Co., Ltd. (HBO)**

Nameplate Abbreviation: THB

Ho Mei, Chang Hua Hsien, 508Taiwan

**This Company Manufactures or Assembles:**

Design Name: T102N

NBCert # 95037

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	11/24/2026

**Design Type**

[Safety Relief Valve] T102N  
Capacity Tests: Sec. UV at National Board Testing Lab on January 31, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.269 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Hui Bao Enterprise Co., Ltd. {HBO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.25 NPS		12.57 mm <sup>2</sup>	4 mm	4.8 mm	50-275 psi	Air	UV

**IDC Plumbing & Heating Technology (Beijing) Co., Ltd. (IDP)**

Nameplate Abbreviation: IDC

HaiYan, 314300People's Republic of China

**This Company Manufactures or Assembles:**

Design Name: EUP3/4-150, EUPQ3/4-150

NBCert # 00291

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	08/12/2030

Design Type

[Safety Relief Valve] EUP3/4-150, EUPQ3/4-150  
Capacity Tests: Sec. HV at National Board Testing Lab on December 8, 2020  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:630000 BTU/HR  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: 40 CC Method  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: IDC Plumbing & Heating Technology (Beijing) Co., Ltd. {IDC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	0.75 NPS	0.19 in²	0.492 in	0.118 in	150-150 psi	Steam	HV

Industrial Service Solutions, LLC (BAY) Nameplate Abbreviation: Industrial Service Solutions

Tukwila, WA 98168United States

This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	06/14/2029	

Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in²	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in²	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in²	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in²	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in²	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in²	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in²	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in²	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in²	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in²	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in²	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in²	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV

1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1811, 1511

NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	02/07/2029

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V



6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV
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Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV, V 02/06/2029

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 02/06/2029

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV

10 NPS	14 NPS	50.26 in²	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV
Design Name: 19000 Series				NBCert #	18706		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		02/06/2029		
Design Type							
[Safety Relief Valve] 19000 Series Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/06/2029

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/21/2028

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.1279 in²	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV
Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751							
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV, V		11/28/2028		
Design Type							
[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.256 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM		NBCert # 19066
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/23/2028
Design Type		
<p>[Safety Relief Valve] 1900-DM Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/23/2028

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E

NBCert #

19099

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/23/2028

**Design Type**

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

02/07/2029

**Design Type**

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

11/28/2028

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/22/2028

#### Design Type

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	3900 (39PV, 39MV pilots)	NBCert #	18447
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/21/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV



1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV

10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name:	3900 (39PV, 39MV pilots, liquid)	NBCert #	18458
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV

3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Industrial Service Solutions, LLC (BYS)

Nameplate Abbreviation: Industrial  
Service Solutions

Ferndale, WA 98248United States

### This Company Manufactures or Assembles:

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/20/2026

### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V

4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

10/20/2026

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series

NBCert #

18706

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

10/19/2026

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV

0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

10/19/2026

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/14/2029

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/14/2029

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name:	1900E-2, 1900-30E-2	NBCert #	18166
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/14/2029

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV
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Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/14/2029
Design Type		

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Industrial Service Solutions, LLC (CRS)										Nameplate Abbreviation: Industrial Service Solutions	
Benicia, CA 94510United States											

This Company Manufactures or Assembles:

Design Name: 1811, 1511			NBCert # 18122				
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV, V		11/30/2029		
Design Type							
[Safety Valve] 1811, 1511 Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.877 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in²	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in²	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in²	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in²	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in²	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in²	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in²	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV



2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30 1900-35 LA & DALA (Liquids) NBCert # 18784

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/30/2029

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V

12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V
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Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	11/29/2029
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Design Type
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[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV

8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name:	19000 Series	NBCert #	18706
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/29/2029

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV

1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/29/2029

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2

NBCert # 18144

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/29/2029

### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV

11/29/2029

### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV

10/30/2029

### Design Type

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV

1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

10/30/2029

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E		NBCert # 19099
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/20/2029
Design Type		
[Safety Relief Valve] 1900-DM-E Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2		NBCert # 18166
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/29/2029
Design Type		
[Safety Relief Valve] 1900E-2, 1900-30E-2 Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids)		NBCert # 18762
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/30/2029
Design Type		
[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.798 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

<b>Industrial Service Solutions, LLC (MLV)</b>	<b>Nameplate Abbreviation: ISS</b>
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Odessa, TX 79764 United States

**This Company Manufactures or Assembles:**

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	01/10/2029

Design Type
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[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV



2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1811, 1511 NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/07/2025

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30 1900-35 LA & DALA (Liquids) NBCert # 18784

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/09/2025

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/07/2025

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series		NBCert #	18706
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	09/19/2025

## Design Type

[Safety Relief Valve] 19000 Series  
 Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/18/2025

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2

NBCert #

18144

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/07/2025

## Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/25/2025

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 3.256 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/21/2029

#### Design Type

[Safety Relief Valve] 1900-DM  
 Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
 Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
 Set Pressure Definition(1): Pop; (2): First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/27/2028

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E

NBCert #

19099

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/27/2028

#### Design Type

[Safety Relief Valve] 1900-DM-E

Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/07/2025

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/13/2025

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/10/2029



## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

10/27/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV

1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Brighton, CO 80601United States

**This Company Manufactures or Assembles:**

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	03/19/2026	

**Design Type**

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	05/06/2026	

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV

10 NPS	14 NPS	50.26 in²	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV
Design Name: 19000 Series				NBCert #	18706		
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			05/05/2026	
Design Type							
[Safety Relief Valve] 19000 Series Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/09/2029

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/09/2029

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.1279 in²	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV
Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751							
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		03/09/2029		
Design Type							
[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.256 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in²	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V
Design Name: 1900E-2, 1900-30E-2				NBCert #	18166		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		03/09/2029		
Design Type							
[Safety Relief Valve] 1900E-2, 1900-30E-2 Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids)			NBCert # 18762	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		03/09/2029
Design Type				

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

## Industrial Steel & Boiler Services, Inc. (ISB)

Chicopee, MA 01013-2893United States

### This Company Manufactures or Assembles:

Design Name:	Kunkle 6000, 6252 Series	NBCert #	36324
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	11/26/2026	

### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V

2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name:	Kunkle 910 to 919	NBCert #	36100
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	05/07/2027
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#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV

2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/26/2027

### Design Type

[Safety Relief Valve] Reyco R, RB & RO (Fig. 971, 973, 974)  
Capacity Tests: Sec. UV at National Board Testing Lab on March 19, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.122 in²	[D] 0.394 in	0.12 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.122 in²	[D] 0.394 in	0.12 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.217 in²	[E] 0.526 in	0.16 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.217 in²	[E] 0.526 in	0.16 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.34 in²	[F] 0.658 in	0.2 in	15-2900 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.34 in²	[F] 0.658 in	0.2 in	15-6250 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.558 in²	[G] 0.843 in	0.26 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.558 in²	[G] 0.843 in	0.26 in	15-4905 psi	Air	UV
1.5-2 NPS	3 NPS	0.869 in²	[H] 1.052 in	0.32 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.869 in²	[H] 1.052 in	0.32 in	15-3300 psi	Air	UV
2-3 NPS	3, 4 NPS	1.427 in²	[J] 1.348 in	0.41 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.427 in²	[J] 1.348 in	0.41 in	15-3300 psi	Air	UV
3 NPS	4, 6 NPS	2.036 in²	[K] 1.61 in	0.49 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.036 in²	[K] 1.61 in	0.49 in	15-3300 psi	Air	UV
3-4 NPS	4, 6 NPS	3.16 in²	[L] 2.006 in	0.61 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.16 in²	[L] 2.006 in	0.61 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	3.987 in²	[M] 2.253 in	0.69 in	15-1600 psi	Air	UV
4 NPS	6 NPS	3.987 in²	[M] 2.253 in	0.69 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	4.807 in²	[N] 2.474 in	0.75 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.807 in²	[N] 2.474 in	0.75 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.07 in²	[P] 3 in	0.92 in	15-1600 psi	Air	UV
4 NPS	6 NPS	7.07 in²	[P] 3 in	0.92 in	15-1600 psi	Steam	UV
6 NPS	8 NPS	12.24 in²	[Q] 3.948 in	1.2 in	15-925 psi	Air	UV
6 NPS	8 NPS	12.24 in²	[Q] 3.948 in	1.2 in	15-925 psi	Steam	UV
6 NPS	8, 10 NPS	17.72 in²	[R] 4.75 in	1.45 in	15-350 psi	Air	UV
6 NPS	8, 10 NPS	17.72 in²	[R] 4.75 in	1.45 in	15-350 psi	Steam	UV
8 NPS	10 NPS	29.75 in²	[T] 6.155 in	1.84 in	15-325 psi	Air	UV

8 NPS	10 NPS	29.75 in <sup>2</sup>	[T] 6.155 in	1.84 in	15-325 psi	Steam	UV
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Design Name:	Reyco R, RB, RO, RBO (Fig. 971, 973, 974) (liquid)	NBCert #	73011
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 04/26/2027

#### Design Type

[Relief Valve] Reyco R, RB, RO, RBO (Fig. 971, 973, 974) (liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 27, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.724 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 2.5, 3 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.12 in	15-6250 psi	Water	UV
1-1.5 NPS	2, 2.5, 3 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.16 in	15-6250 psi	Water	UV
1.5 NPS	2 - 3 NPS	0.34 in <sup>2</sup>	[F] 0.658 in	0.2 in	15-6250 psi	Water	UV
1.5-2 NPS	2.5, 3 NPS	0.558 in <sup>2</sup>	[G] 0.843 in	0.26 in	15-4905 psi	Water	UV
1.5-2 NPS	3 NPS	0.869 in <sup>2</sup>	[H] 1.052 in	0.32 in	15-3300 psi	Water	UV
2-3 NPS	3, 4 NPS	1.427 in <sup>2</sup>	[J] 1.348 in	0.41 in	15-3300 psi	Water	UV
3 NPS	4, 6 NPS	2.036 in <sup>2</sup>	[K] 1.61 in	0.49 in	15-3300 psi	Water	UV
3-4 NPS	4, 6 NPS	3.16 in <sup>2</sup>	[L] 2.006 in	0.61 in	15-2900 psi	Water	UV
4 NPS	6 NPS	3.987 in <sup>2</sup>	[M] 2.253 in	0.69 in	15-1600 psi	Water	UV
4 NPS	6 NPS	4.807 in <sup>2</sup>	[N] 2.474 in	0.75 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P] 3 in	0.92 in	15-1600 psi	Water	UV
6 NPS	8 NPS	12.24 in <sup>2</sup>	[Q] 3.948 in	1.2 in	15-925 psi	Water	UV
6 NPS	8, 10 NPS	17.72 in <sup>2</sup>	[R] 4.75 in	1.45 in	15-350 psi	Water	UV
8 NPS	10 NPS	29.75 in <sup>2</sup>	[T] 6.155 in	1.84 in	15-325 psi	Water	UV

Design Name:	RL-14 & RLO-14 (0.315 in. orifice)	NBCert #	73044
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 04/26/2027

#### Design Type

[Safety Relief Valve] RL-14 & RLO-14 (0.315 in. orifice)  
Capacity Tests: Sec. UV at National Board Testing Lab on June 8, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.230 SCFM/PSIA; (alternate medium): 3.460 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.078 in <sup>2</sup>	0.315 in	0.078 in	15-2900 psi	Steam	UV

0.5-1 NPS	1 NPS	0.078 in <sup>2</sup>	0.315 in	0.078 in	15-5000 psi	Air	UV
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Design Name: RL-14 & RLO-14 (0.315 in. orifice) (Liquids) NBCert # 73055

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/26/2027

#### Design Type

[Relief Valve] RL-14 & RLO-14 (0.315 in. orifice) (Liquids)  
 Capacity Tests: Sec. UV at National Board Testing Lab on June 4, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 1.880 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.078 in <sup>2</sup>	0.315 in	0.078 in	15-5000 psi	Water	UV

Design Name: RL14 & RLO14 (0.394 in. orifice) NBCert # 73202

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/26/2027

#### Design Type

[Safety Relief Valve] RL14 & RLO14 (0.394 in. orifice)  
 Capacity Tests: Sec. UV at National Board Testing Lab on September 30, 2014  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 1.637 SCFM/PSIA; (alternate medium): 4.600 PPH/PSIA  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.122 in <sup>2</sup>	0.394 in	0.0985 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.122 in <sup>2</sup>	0.394 in	0.0985 in	15-5000 psi	Air	UV

Design Name: RL14 & RLO14 (0.394 in. orifice) (Liquid) NBCert # 73213

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/26/2027

#### Design Type

[Relief Valve] RL14 & RLO14 (0.394 in. orifice) (Liquid)  
 Capacity Tests: Sec. UV at National Board Testing Lab on September 30, 2014  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 3.021 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.122 in <sup>2</sup>	0.394 in	0.0985 in	15-5000 psi	Water	UV

## Industrial Valve Sales & Service, LLC (IVE)

Mobile, AL 36613United States

### This Company Manufactures or Assembles:

Design Name:	2400	NBCert #	57451
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	06/09/2026	

#### Design Type

[Safety Relief Valve] 2400  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on August 28, 2019  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.817 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75-1 NPS	0.049 in <sup>2</sup>	[B] 0.25 in	0.08 in	20-2000 psi	Air	UV
0.5-1 NPS	1-2 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.12 in	20-1410 psi	Air	UV
0.75-1 NPS	1-2 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.175 in	20-600 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.295 in	20-4000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.365 in	20-3000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.435 in	20-2500 psi	Air	UV

## Jiangsu Bafang Safety Device Co.,Ltd (XBA)

Nameplate Abbreviation: BasCo

Jiangsu Province, People's Republic of China

### This Company Manufactures or Assembles:

Design Name:	9100 Series Buckling Pin Relief Valve	NBCert #	00965
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UD	10/13/2028	

## Design Type

[Buckling Pin Non-reclosing Device] 9100 Series Buckling Pin Relief Valve  
Capacity Tests: Sec. UD at National Board Testing Lab on June 2, 2016  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.685 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Jiangsu Bafang Safety Device Co.,Ltd {XBA}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	1.5 NPS	1.767 in <sup>2</sup>	1.5 in	0.75 in	15-275 psi	Air	UD
2 NPS	2 NPS	3.301 in <sup>2</sup>	2.05 in	1.02 in	15-275 psi	Air	UD
3 NPS	3 NPS	7.022 in <sup>2</sup>	2.99 in	1.5 in	15-275 psi	Air	UD
4 NPS	4 NPS	12.692 in <sup>2</sup>	4.02 in	1.97 in	15-275 psi	Air	UD
6 NPS	6 NPS	28.086 in <sup>2</sup>	5.98 in	2.56 in	1-275 psi	Air	UD
8 NPS	8 NPS	50.14 in <sup>2</sup>	8.99 in	2.95 in	1-275 psi	Air	UD
10 NPS	10 NPS	78.54 in <sup>2</sup>	10 in	3.54 in	1-275 psi	Air	UD
12 NPS	12 NPS	113.286 in <sup>2</sup>	12.01 in	3.94 in	1-275 psi	Air	UD
14 NPS	14 NPS	138.303 in <sup>2</sup>	13.27 in	4.33 in	1-275 psi	Air	UD
16 NPS	16 NPS	182.415 in <sup>2</sup>	15.24 in	4.92 in	1-275 psi	Air	UD
20 NPS	20 NPS	291.039 in <sup>2</sup>	19.25 in	5.91 in	1-275 psi	Air	UD
24 NPS	24 NPS	425.288 in <sup>2</sup>	23.27 in	6.89 in	1-275 psi	Air	UD
28 NPS	28 NPS	574.678 in <sup>2</sup>	27.05 in	8.06 in	1-275 psi	Air	UD
32 NPS	32 NPS	750.391 in <sup>2</sup>	30.91 in	9.06 in	1-145 psi	Air	UD
36 NPS	36 NPS	957.72 in <sup>2</sup>	34.92 in	10.02 in	1-145 psi	Air	UD
40 NPS	40 NPS	1183.59 in <sup>2</sup>	38.82 in	11.22 in	1-145 psi	Air	UD

Design Name: 9800

NBCert # 02259

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/23/2029

## Design Type

[Buckling Pin Non-reclosing Device] 9800  
Capacity Tests: Sec. UD at National Board Testing Lab on April 11, 2022  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 14.030 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: MNFA  
Designed by: Jiangsu Bafang Safety Device Co.,Ltd {XBA}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		50.66 in <sup>2</sup>			0.5-2250 psi		UD
12 NPS		78.76 in <sup>2</sup>			0.5-2250 psi		UD
14 NPS		97.28 in <sup>2</sup>			0.5-2250 psi		UD
16 NPS		132.12 in <sup>2</sup>			0.5-2250 psi		UD
18 NPS		169.22 in <sup>2</sup>			0.5-2250 psi		UD
20 NPS		232.6 in <sup>2</sup>			0.5-2250 psi		UD

24 NPS	311.46 in <sup>2</sup>	0.5-2250 psi	UD
26 NPS	360.9 in <sup>2</sup>	0.5-1440 psi	UD
28 NPS	439.81 in <sup>2</sup>	0.5-1440 psi	UD
3 NPS	3.2 in <sup>2</sup>	0.5-2250 psi	UD
30 NPS	495.77 in <sup>2</sup>	0.5-1440 psi	UD
32 NPS	618.39 in <sup>2</sup>	0.5-1440 psi	UD
34 NPS	652 in <sup>2</sup>	0.5-1440 psi	UD
36 NPS	738.12 in <sup>2</sup>	0.5-1440 psi	UD
38 NPS	829.58 in <sup>2</sup>	0.5-1440 psi	UD
4 NPS	6.82 in <sup>2</sup>	0.5-2250 psi	UD
40 NPS	926.4 in <sup>2</sup>	0.5-1440 psi	UD
42 NPS	1028.55 in <sup>2</sup>	0.5-1440 psi	UD
44 NPS	1136.03 in <sup>2</sup>	0.5-1440 psi	UD
46 NPS	1248.87 in <sup>2</sup>	0.5-1440 psi	UD
48 NPS	1367.04 in <sup>2</sup>	0.5-1440 psi	UD
50 NPS	1493.07 in <sup>2</sup>	0.5-720 psi	UD
52 NPS	1619.41 in <sup>2</sup>	0.5-720 psi	UD
54 NPS	1753.61 in <sup>2</sup>	0.5-720 psi	UD
56 NPS	1893.14 in <sup>2</sup>	0.5-720 psi	UD
58 NPS	2038.02 in <sup>2</sup>	0.5-720 psi	UD
6 NPS	18.4 in <sup>2</sup>	0.5-2250 psi	UD
60 NPS	2188.24 in <sup>2</sup>	0.5-720 psi	UD
64 NPS	2504.7 in <sup>2</sup>	0.5-720 psi	UD
72 NPS	3201.72 in <sup>2</sup>	0.5-720 psi	UD
8 NPS	31.42 in <sup>2</sup>	0.5-2250 psi	UD
80 NPS	4545.85 in <sup>2</sup>	0.5-720 psi	UD

Design Name: FCD Series Rupture Disc NBCert # 00684

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/13/2028

#### Design Type

[Rupture Disk Device] FCD Series Rupture Disc  
HolderDesignation: FH  
Capacity Tests: Sec. UD at National Board Testing Lab on June 5, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.600 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Jiangsu Bafang Safety Device Co.,Ltd {XBA}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.68 in <sup>2</sup>			88-1000 psi	Air	UD
1.5 NPS		1.61 in <sup>2</sup>			62-700 psi	Air	UD
10 NPS		74.48 in <sup>2</sup>			8-240 psi	Air	UD



12 NPS	105.69 in <sup>2</sup>	6-200 psi	Air	UD
14 NPS	134.86 in <sup>2</sup>	6-175 psi	Air	UD
16 NPS	175.9 in <sup>2</sup>	6-150 psi	Air	UD
18 NPS	223.34 in <sup>2</sup>	6-135 psi	Air	UD
2 NPS	2.94 in <sup>2</sup>	30-550 psi	Air	UD
20 NPS	277.49 in <sup>2</sup>	3-120 psi	Air	UD
24 NPS	397.05 in <sup>2</sup>	3-100 psi	Air	UD
28 NPS	561.78 in <sup>2</sup>	3-93 psi	Air	UD
3 NPS	6.44 in <sup>2</sup>	22-450 psi	Air	UD
30 NPS	650.78 in <sup>2</sup>	3-88 psi	Air	UD
36 NPS	906.69 in <sup>2</sup>	3-75 psi	Air	UD
4 NPS	11.1 in <sup>2</sup>	16-415 psi	Air	UD
6 NPS	25.77 in <sup>2</sup>	12-320 psi	Air	UD
8 NPS	46.97 in <sup>2</sup>	10-295 psi	Air	UD

Design Name: FGD	NBCert # 02248
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 12/18/2025

Design Type
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[Rupture Disk Device] FGD  
HolderDesignation: FH  
Capacity Tests: Sec. UD at National Board Testing Lab on August 21, 2019  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.600 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Blowdown Characteristics: Fixed  
Flow Area Configuration: MNFA  
Designed by: Jiangsu Bafang Safety Device Co.,Ltd {XBA}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.63 in <sup>2</sup>			290-8700 psi	Air	UD
1.25 NPS		1.12 in <sup>2</sup>			218-6525 psi	Air	UD
1.5 NPS		1.74 in <sup>2</sup>			218-5075 psi	Air	UD
10 NPS		47.51 in <sup>2</sup>			44-1160 psi	Air	UD
12 NPS		70.53 in <sup>2</sup>			36-870 psi	Air	UD
14 NPS		87.9 in <sup>2</sup>			36-508 psi	Air	UD
16 NPS		120.13 in <sup>2</sup>			29-290 psi	Air	UD
2 NPS		2.35 in <sup>2</sup>			174-4350 psi	Air	UD
2.5 NPS		4.24 in <sup>2</sup>			145-2900 psi	Air	UD
3 NPS		5.4 in <sup>2</sup>			145-2900 psi	Air	UD
4 NPS		9.55 in <sup>2</sup>			102-2465 psi	Air	UD
5 NPS		13.67 in <sup>2</sup>			87-1740 psi	Air	UD
6 NPS		18.08 in <sup>2</sup>			73-1450 psi	Air	UD
8 NPS		31.05 in <sup>2</sup>			58-1450 psi	Air	UD

Design Name:	RCD Series Rupture Disc	NBCert #	00954
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/13/2028

#### Design Type

[Rupture Disk Device] RCD Series Rupture Disc  
HolderDesignation: RH  
Capacity Tests: Sec. UD at National Board Testing Lab on June 1, 2016  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.970 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Jiangsu Bafang Safety Device Co.,Ltd {XBA}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.63 in <sup>2</sup>			217-580 psi	Air	UD
1.5 NPS		1.74 in <sup>2</sup>			174-435 psi	Air	UD
2 NPS		2.35 in <sup>2</sup>			130-435 psi	Air	UD
3 NPS		5.4 in <sup>2</sup>			116-435 psi	Air	UD
4 NPS		9.06 in <sup>2</sup>			116-362 psi	Air	UD
6 NPS		17.41 in <sup>2</sup>			72.5-217 psi	Air	UD
8 NPS		30.18 in <sup>2</sup>			36-87 psi	Air	UD

Design Name:	RSD	NBCert #	02237
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 09/13/2028

#### Design Type

[Rupture Disk Device] RSD  
HolderDesignation: RH  
Capacity Tests: Sec. UD at National Board Testing Lab on January 22, 2020  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 4.800 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Blowdown Characteristics: Fixed  
Flow Area Configuration: MNFA  
Designed by: Jiangsu Bafang Safety Device Co.,Ltd {XBA}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.41 in <sup>2</sup>			123-1015 psi	Air	UD
1 NPS		0.68 in <sup>2</sup>			98-870 psi	Air	UD
1.25 NPS		1.3 in <sup>2</sup>			75-870 psi	Air	UD
1.5 NPS		1.68 in <sup>2</sup>			60-725 psi	Air	UD
10 NPS		67.42 in <sup>2</sup>			6-131 psi	Air	UD
12 NPS		99.54 in <sup>2</sup>			3-80 psi	Air	UD
14 NPS		129.92 in <sup>2</sup>			3-65 psi	Air	UD
16 NPS		169.24 in <sup>2</sup>			3-46 psi	Air	UD
2 NPS		3.24 in <sup>2</sup>			45-580 psi	Air	UD

2.5 NPS	4.65 in <sup>2</sup>	30-435 psi	Air	UD
3 NPS	7.23 in <sup>2</sup>	22-406 psi	Air	UD
4 NPS	12.23 in <sup>2</sup>	12-363 psi	Air	UD
5 NPS	18.33 in <sup>2</sup>	9-305 psi	Air	UD
6 NPS	26.84 in <sup>2</sup>	7.5-305 psi	Air	UD
8 NPS	42.92 in <sup>2</sup>	7.5-189 psi	Air	UD

<b>JOKWANG I.L.I. Co., Ltd. (JOK)</b>	<b>Nameplate Abbreviation: JOKWANG ILI</b>
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Yangsan-si, Gyeongsangnam-do, 50567 Republic of Korea

**This Company Manufactures or Assembles:**

Design Name: JSV-FF100	NBCert # 89030
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	03/21/2029
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<b>Design Type</b>
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[Safety Relief Valve] JSV-FF100  
Capacity Tests: Sec. UV at National Board Testing Lab on October 7, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.831 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: JOKWANG I.L.I. Co., Ltd. {JOK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	1 - 3 NPS	0.11 in <sup>2</sup>	[D] 0.374 in	0.094 in	15-2900 psi	Steam	UV
0.75-1.5 NPS	1 - 3 NPS	0.11 in <sup>2</sup>	[D] 0.374 in	0.094 in	15-6000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-6000 psi	Air	UV
0.75-1.5 NPS	1-3 NPS	0.206 in <sup>2</sup>	[D1] 0.512 in	0.127 in	15-2900 psi	Steam	UV
0.75-1.5 NPS	1-3 NPS	0.206 in <sup>2</sup>	[D1] 0.512 in	0.127 in	15-6000 psi	Air	UV
1-1.5 NPS	2-3 NPS	0.292 in <sup>2</sup>	[E1] 0.61 in	0.152 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.292 in <sup>2</sup>	[E1] 0.61 in	0.152 in	15-6000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.308 in <sup>2</sup>	[F] 0.626 in	0.157 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.308 in <sup>2</sup>	[F] 0.626 in	0.157 in	15-5000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.403 in <sup>2</sup>	[F1] 0.717 in	0.179 in	15-2900 psi	Steam	UV
1.5-2 NPS	2-3 NPS	0.403 in <sup>2</sup>	[F1] 0.717 in	0.179 in	15-5000 psi	Air	UV
1.5-3 NPS	3 NPS	0.506 in <sup>2</sup>	[G] 0.803 in	0.201 in	15-2900 psi	Steam	UV
1.5-3 NPS	3 NPS	0.506 in <sup>2</sup>	[G] 0.803 in	0.201 in	15-3700 psi	Air	UV
1.5-2 NPS	3 NPS	0.627 in <sup>2</sup>	[G1] 0.894 in	0.223 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.627 in <sup>2</sup>	[G1] 0.894 in	0.223 in	15-3700 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-2500 psi	Steam	UV

1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-2750 psi	Air	UV
1.5-2 NPS	3 NPS	0.982 in <sup>2</sup>	[H1] 1.118 in	0.279 in	15-2750 psi	Air	UV
1.5-2 NPS	3 NPS	0.982 in <sup>2</sup>	[H1] 1.118 in	0.279 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.293 in <sup>2</sup>	[J] 1.283 in	0.321 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.293 in <sup>2</sup>	[J] 1.283 in	0.321 in	15-2700 psi	Air	UV
2-3 NPS	3-4 NPS	1.56 in <sup>2</sup>	[J1] 1.409 in	0.352 in	15-2500 psi	Steam	UV
2-3 NPS	3-4 NPS	1.56 in <sup>2</sup>	[J1] 1.409 in	0.352 in	15-2750 psi	Air	UV
3 NPS	4 - 6 NPS	1.841 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-2000 psi	Steam	UV
3 NPS	4 - 6 NPS	1.841 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-2220 psi	Air	UV
3 NPS	4 - 6 NPS	2.177 in <sup>2</sup>	[K1] 1.665 in	0.416 in	15-2000 psi	Steam	UV
3 NPS	4 - 6 NPS	2.177 in <sup>2</sup>	[K1] 1.665 in	0.416 in	15-2200 psi	Air	UV
3-4 NPS	4 - 6 NPS	2.862 in <sup>2</sup>	[L] 1.909 in	0.478 in	15-2500 psi	Air	UV
3-4 NPS	4 - 6 NPS	2.862 in <sup>2</sup>	[L] 1.909 in	0.478 in	15-2500 psi	Steam	UV
3-4 NPS	4-6 NPS	3.484 in <sup>2</sup>	[L1] 2.106 in	0.526 in	15-2500 psi	Air	UV
3-4 NPS	4-6 NPS	3.484 in <sup>2</sup>	[L1] 2.106 in	0.526 in	15-2500 psi	Steam	UV
4 NPS	6 NPS	3.604 in <sup>2</sup>	[M] 2.142 in	0.536 in	15-1100 psi	Air	UV
4 NPS	6 NPS	3.604 in <sup>2</sup>	[M] 2.142 in	0.536 in	15-1100 psi	Steam	UV
4 NPS	6 NPS	4.337 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-1000 psi	Air	UV
4 NPS	6 NPS	4.337 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.383 in <sup>2</sup>	[M1] 2.362 in	0.59 in	15-1100 psi	Air	UV
4 NPS	6 NPS	4.383 in <sup>2</sup>	[M1] 2.362 in	0.59 in	15-1100 psi	Steam	UV
4 NPS	6 NPS	5.303 in <sup>2</sup>	[N1] 2.598 in	0.649 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	5.303 in <sup>2</sup>	[N1] 2.598 in	0.649 in	15-1000 psi	Air	UV
4 NPS	6 NPS	6.379 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1000 psi	Air	UV
4 NPS	6 NPS	6.379 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	7.068 in <sup>2</sup>	[P1] 3 in	0.75 in	15-1000 psi	Air	UV
4 NPS	6 NPS	7.068 in <sup>2</sup>	[P1] 3 in	0.75 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	7.512 in <sup>2</sup>	[P2] 3.095 in	0.774 in	15-1000 psi	Air	UV
4 NPS	6 NPS	7.512 in <sup>2</sup>	[P2] 3.095 in	0.774 in	15-1000 psi	Steam	UV
6 NPS	8 NPS	11.056 in <sup>2</sup>	[Q] 3.752 in	0.938 in	15-600 psi	Air	UV
6 NPS	8 NPS	11.056 in <sup>2</sup>	[Q] 3.752 in	0.938 in	15-600 psi	Steam	UV
6 NPS	8 NPS	13.041 in <sup>2</sup>	[Q1] 4.0748 in	1.018 in	15-600 psi	Air	UV
6 NPS	8 NPS	13.041 in <sup>2</sup>	[Q1] 4.0748 in	1.018 in	15-600 psi	Steam	UV
6 NPS	8 - 10 NPS	16.018 in <sup>2</sup>	[R] 4.516 in	1.129 in	15-400 psi	Air	UV
6 NPS	8 - 10 NPS	16.018 in <sup>2</sup>	[R] 4.516 in	1.129 in	15-400 psi	Steam	UV
8 NPS	10 NPS	26.021 in <sup>2</sup>	[T] 5.756 in	1.439 in	15-300 psi	Air	UV
8 NPS	10 NPS	26.021 in <sup>2</sup>	[T] 5.756 in	1.439 in	15-300 psi	Steam	UV
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T1] 6 in	1.5 in	15-300 psi	Air	UV
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T1] 6 in	1.5 in	15-300 psi	Steam	UV
8 NPS	10 NPS	30.699 in <sup>2</sup>	[T2] 6.252 in	1.563 in	15-300 psi	Air	UV
8 NPS	10 NPS	30.699 in <sup>2</sup>	[T2] 6.252 in	1.563 in	15-300 psi	Steam	UV

10 NPS	14 NPS	39.447 in <sup>2</sup>	[V] 7.087 in	1.772 in	15-300 psi	Air	UV
10 NPS	14 NPS	39.447 in <sup>2</sup>	[V] 7.087 in	1.772 in	15-300 psi	Steam	UV
10 NPS	14 NPS	44.179 in <sup>2</sup>	[V1] 7.5 in	1.875 in	15-300 psi	Air	UV
10 NPS	14 NPS	44.179 in <sup>2</sup>	[V1] 7.5 in	1.875 in	15-300 psi	Steam	UV
12 NPS	16 NPS	55.748 in <sup>2</sup>	[W] 8.425 in	2.107 in	15-300 psi	Air	UV
12 NPS	16 NPS	55.748 in <sup>2</sup>	[W] 8.425 in	2.107 in	15-300 psi	Steam	UV
12 NPS	16 NPS	63.617 in <sup>2</sup>	[W1] 9 in	2.25 in	15-300 psi	Air	UV
12 NPS	16 NPS	63.617 in <sup>2</sup>	[W1] 9 in	2.25 in	15-300 psi	Steam	UV
14 NPS	18 NPS	76.078 in <sup>2</sup>	[Y] 9.842 in	2.461 in	15-300 psi	Air	UV
14 NPS	18 NPS	76.078 in <sup>2</sup>	[Y] 9.842 in	2.461 in	15-300 psi	Steam	UV
14 NPS	18 NPS	86.59 in <sup>2</sup>	[Y1] 10.5 in	2.625 in	15-300 psi	Air	UV
14 NPS	18 NPS	86.59 in <sup>2</sup>	[Y1] 10.5 in	2.625 in	15-300 psi	Steam	UV

Design Name: JSV-FF100 (Liquid) NBCert # 89041

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV, V 03/21/2029

#### Design Type

[Safety Relief Valve] JSV-FF100 (Liquid)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on October 7, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.615 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: JOKWANG I.L.I. Co., Ltd. {JOK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	1 - 3 NPS	0.11 in <sup>2</sup>	[D] 0.374 in	0.094 in	15-6000 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-6000 psi	Water	UV, V
0.75-1.5 NPS	1-3 NPS	0.206 in <sup>2</sup>	[D1] 0.512 in	0.127 in	15-6000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.292 in <sup>2</sup>	[E1] 0.612 in	0.152 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.308 in <sup>2</sup>	[F] 0.626 in	0.157 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.403 in <sup>2</sup>	[F1] 0.716 in	0.179 in	15-5000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.506 in <sup>2</sup>	[G] 0.803 in	0.201 in	15-3700 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.595 in <sup>2</sup>	[G1] 0.87 in	0.217 in	15-3700 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-2750 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.982 in <sup>2</sup>	[H1] 1.1178 in	0.279 in	15-2750 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.293 in <sup>2</sup>	[J] 1.283 in	0.321 in	15-2700 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.56 in <sup>2</sup>	[J1] 1.4088 in	0.352 in	15-2700 psi	Water	UV, V
3 NPS	4 - 6 NPS	1.841 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-2220 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.177 in <sup>2</sup>	[K1] 1.665 in	0.416 in	15-2200 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	2.862 in <sup>2</sup>	[L] 1.909 in	0.478 in	15-2500 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.484 in <sup>2</sup>	[L1] 2.105 in	0.526 in	15-2500 psi	Water	UV, V
4 NPS	6 NPS	3.604 in <sup>2</sup>	[M] 2.142 in	0.536 in	15-1100 psi	Water	UV, V

4 NPS	6 NPS	4.337 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	4.382 in <sup>2</sup>	[M1] 2.361 in	0.59 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N1] 2.597 in	0.649 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	6.379 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.521 in <sup>2</sup>	[P1] 3.0945 in	0.75 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	11.056 in <sup>2</sup>	[Q] 3.752 in	0.938 in	15-600 psi	Water	UV, V
6 NPS	8 NPS	13.041 in <sup>2</sup>	[Q1] 4.0748 in	1.018 in	15-600 psi	Water	UV, V
6 NPS	8 - 10 NPS	16.018 in <sup>2</sup>	[R] 4.516 in	1.129 in	15-300 psi	Water	UV, V
8 NPS	10 NPS	26.021 in <sup>2</sup>	[T] 5.756 in	1.439 in	15-300 psi	Water	UV, V
8 NPS	10 NPS	30.699 in <sup>2</sup>	[T1] 6.252 in	1.562 in	15-300 psi	Water	UV, V
10 NPS	14 NPS	39.447 in <sup>2</sup>	[V] 7.087 in	1.772 in	15-300 psi	Water	UV, V
10 NPS	14 NPS	44.179 in <sup>2</sup>	[V1] 7.5 in	1.875 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	55.748 in <sup>2</sup>	[W] 8.425 in	2.107 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.617 in <sup>2</sup>	[W1] 9 in	2.25 in	15-300 psi	Water	UV, V
14 NPS	18 NPS	76.078 in <sup>2</sup>	[Y] 9.842 in	2.461 in	15-300 psi	Water	UV, V
14 NPS	18 NPS	86.59 in <sup>2</sup>	[Y1] 10.5 in	2.625 in	15-300 psi	Water	UV, V

Design Name: JSV-FF200	NBCert # 89074
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV, V	11/23/2027
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#### Design Type

[Safety Valve] JSV-FF200  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 25, 2014  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: JOKWANG I.L.I. Co., Ltd. {JOK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.439 in <sup>2</sup>	0.748 in	0.187 in	15-4750 psi	Steam	V
1.25-1.5 NPS	2.5, 3 NPS	0.701 in <sup>2</sup>	0.945 in	0.236 in	15-4750 psi	Steam	V
1.5-2 NPS	2.5-4 NPS	1.095 in <sup>2</sup>	1.181 in	0.295 in	15-4750 psi	Steam	V
2-3 NPS	3-6 NPS	1.758 in <sup>2</sup>	1.496 in	0.374 in	15-5020 psi	Steam	V
2.5-3 NPS	4-6 NPS	2.922 in <sup>2</sup>	1.929 in	0.482 in	15-4750 psi	Steam	V
3-4 NPS	5-8 NPS	4.531 in <sup>2</sup>	2.402 in	0.601 in	15-3000 psi	Steam	V
4-4 NPS	6-8 NPS	7.031 in <sup>2</sup>	2.992 in	0.748 in	15-3000 psi	Steam	V
5-6 NPS	8-10 NPS	10.986 in <sup>2</sup>	3.74 in	0.935 in	15-2000 psi	Steam	V
6 NPS	8-10 NPS	12.566 in <sup>2</sup>	4 in	1 in	15-2000 psi	Steam	V
6-8 NPS	8-10 NPS	16.103 in <sup>2</sup>	4.528 in	1.132 in	15-2000 psi	Steam	V
8-8 NPS	10-12 NPS	27.395 in <sup>2</sup>	5.906 in	1.477 in	15-1500 psi	Steam	V
10-10 NPS	14 NPS	39.447 in <sup>2</sup>	7.087 in	1.772 in	15-500 psi	Steam	V
12-12 NPS	16 NPS	55.748 in <sup>2</sup>	8.425 in	2.107 in	15-500 psi	Steam	V

14-14 NPS	18 NPS	76.078 in <sup>2</sup>	9.842 in	2.461 in	15-500 psi	Steam	V
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Design Name: JSV-FT100 (Liquid)		NBCert #	89096
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	03/22/2028
Design Type			
[Relief Valve] JSV-FT100 (Liquid) Capacity Tests: Sec. UV at National Board Testing Lab on February 10, 2015 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.990 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: JOKWANG I.L.I. Co., Ltd. {JOK}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	[D] 0.374 in	0.094 in	15-4500 psi	Water	UV

J-S Machine and Valve Inc. (JSM)										Nameplate Abbreviation: J-S Machine & Valve									
Nowata, OK 74048United States																			

This Company Manufactures or Assembles:

Design Name: 9 Series		NBCert #	44019
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	08/30/2029
Design Type			
[Safety Relief Valve] 9 Series Capacity Tests: Sec. UV at National Board Testing Lab on July 24, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.823 Unitless Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM Flow Technologies - France SAS {SAR}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-4700 psi	Air	UV
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-4700 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Steam	UV

1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Steam	UV

Design Name:	9 Series (Liquids)	NBCert #	44020
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/30/2029

#### Design Type

[Relief Valve] 9 Series (Liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on July 24, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.632 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	[B] 0.236 in	0.07 in	15-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	14.5-6250 psi	Water	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.13 in	14.5-2220 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.17 in	14.5-740 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.21 in	14.5-285 psi	Water	UV

Design Name:	P3, P4 (liquids)	NBCert #	92012
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/30/2029

#### Design Type

[Relief Valve] P3, P4 (liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V



4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in <sup>2</sup>	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in <sup>2</sup>	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V

Design Name: Starsteam V Series (Res. Lift) NBCert # 92045

Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 08/30/2029

#### Design Type

[Safety Valve] Starsteam V Series (Res. Lift)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on August 6, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	3 NPS	0.996 in <sup>2</sup>	[1] 1.125 in	0.156 in	15-6525 psi	Steam	UV, V
2 NPS	3 NPS	1.667 in <sup>2</sup>	[2] 1.456 in	0.201 in	15-6525 psi	Steam	UV, V
2.5 NPS	6 NPS	2.758 in <sup>2</sup>	[3] 1.874 in	0.258 in	15-6525 psi	Steam	UV, V
3 NPS	6 NPS	3.983 in <sup>2</sup>	[4] 2.251 in	0.309 in	15-6525 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[5] 2.598 in	0.357 in	15-6525 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[6] 3 in	0.414 in	15-3280 psi	Steam	UV, V
6 NPS	8 NPS	11.056 in <sup>2</sup>	[Q] 3.571 in	0.517 in	15-2798 psi	Steam	UV, V
6 NPS	10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	0.619 in	15-1580 psi	Steam	UV, V
6 NPS	10 NPS	19.299 in <sup>2</sup>	[RR] 4.957 in	0.681 in	15-1580 psi	Steam	UV, V
8 NPS	10 NPS	27.391 in <sup>2</sup>	[T] 5.905 in	0.812 in	15-1190 psi	Steam	UV, V

## Kings Energy Services Ltd. (KES)

Nameplate Abbreviation: Kings Energy Services

Sarnia, ON N7T 7H3Canada

### This Company Manufactures or Assembles:

Design Name: 2600 & 2600S NBCert # 57057

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/09/2029

## Design Type

[Safety Relief Valve] 2600 & 2600S

Capacity Tests: Sec. UV at unknown lab on June 11, 1972

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV

12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

06/09/2029

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV

4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids) NBCert # 57068

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/09/2029

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/09/2029

### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/09/2029

### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

## Kunshan Xinxinpeng Mechanical Co. Ltd (KUN)

Nameplate Abbreviation: XXP

Jiangsu Province, 215323People's Republic of China

### This Company Manufactures or Assembles:

Design Name: AX-15		NBCert #	14915
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/29/2029
Design Type			
[Safety Relief Valve] AX-15 Capacity Tests: Sec. UV at National Board Testing Lab on August 31, 2006 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.328 SCFM/PSIA Media - ; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Kunshan Xinxinpeng Mechanical Co. Ltd {KUN}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.0214 in <sup>2</sup>	4.2 mm	1.05 mm	70-270 psi	Air	UV

## Lakeside Process Controls, Ltd. (TVA)

Nameplate Abbreviation: Lakeside  
Process Controls

Sarnia, ON N7T 2S6Canada

### This Company Manufactures or Assembles:

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids)		NBCert #	01337
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	04/07/2027

**Design Type**

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.767 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

02/12/2027

**Design Type**

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.491 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V

4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name:	81, 81P, 83, 84	NBCert #	01089
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/12/2027

### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name:	81P (Liquids)	NBCert #	01102
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/12/2027



**Design Type**

[Relief Valve] 81P (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.720 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: 93% of pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC NBCert # 15499

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

07/31/2029

**Design Type**

[Relief Valve] 900 Series (Liquid), 7700, SNC  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.661 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV

1.5 NPS      2.5 NPS      0.5674 in<sup>2</sup>      [#9] 0.85 in      0.274 in      15-5000 psi      Water      UV, V

Design Name: 900 Series, 7700, SNC			NBCert # 15411	
Manufacturer/Assembler		Designators		Expiration Date

Assembler UV 07/31/2029

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids)			NBCert # 15095	
Manufacturer/Assembler		Designators		Expiration Date

Assembler UV 02/12/2027

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV

1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name:	JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB	NBCert #	15208
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/31/2029

### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV

6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

Design Name: Kunkle 6000, 6252 Series NBCert # 36324

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 11/01/2029

#### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV

2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name:	Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)	NBCert #	36111
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	02/12/2027
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#### Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)

Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.710 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

## LAM VALVES INC. (LMV)

Houston, TX 77023United States

### This Company Manufactures or Assembles:

Design Name:	Kunkle 337	NBCert #	36278
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	08/08/2030	

#### Design Type

[Safety Relief Valve] Kunkle 337  
Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name:	Kunkle 541-A/542-A (.295 orifice)	NBCert #	36469
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	05/21/2030	

#### Design Type

[Safety Relief Valve] Kunkle 541-A/542-A (.295 orifice)  
Capacity Tests: Sec. UV at unknown lab on December 14, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.068 in <sup>2</sup>	0.295 in	0.126 in	15-200 psi	Air	UV

Design Name:	Kunkle 541-C/542-C/548-C (.422 Orifice)	NBCert #	36302
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	05/21/2030	

**Design Type**

[Safety Relief Valve] Kunkle 541-C/542-C/548-C (.422 Orifice)  
 Capacity Tests: Sec. UV at unknown lab on May 20, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 2.000 SCFM/PSIA  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	Side NPS	0.14 in <sup>2</sup>	0.422 in	0.2 in	15-400 psi	Air	UV

Design Name: Kunkle 548-A (.295 Orifice) NBCert # 36290

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

05/21/2030

**Design Type**

[Safety Relief Valve] Kunkle 548-A (.295 Orifice)  
 Capacity Tests: Sec. UV at unknown lab on May 20, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 1.000 SCFM/PSIA  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.375 NPS	Side NPS	0.068 in <sup>2</sup>	0.295 in	0.126 in	15-400 psi	Air	UV

Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid) NBCert # 36111

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

08/07/2030

**Design Type**

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
 Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.710 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V



# Laurentide Controls Limited (SIE)

Nameplate Abbreviation: LCL

Kirkland, QC H9J 4A1Canada

## This Company Manufactures or Assembles:

Design Name:	81, 81P, 83, 84	NBCert #	01089
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/19/2029

### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
 Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.816 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
 Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name:	81P (Liquids)	NBCert #	01102
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/19/2029

### Design Type

[Relief Valve] 81P (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.720 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: 93% of pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name:	900 Series (Liquid), 7700, SNC	NBCert #	15499
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 06/19/2029

#### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name:	900 Series, 7700, SNC	NBCert #	15411
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/19/2029

## Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: C776

NBCert # 36425

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/19/2029

## Design Type

[Safety Relief Valve] C776  
 Capacity Tests: Sec. UV at Crosby Valve, LLC on July 15, 2002  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.790 Unitless  
 Media - Test: Air/Gas; Certified: Gas  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Regulator Technologies - Fromex S.A. de C.V. {FCF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.169 in <sup>2</sup>	0.465 in	0.116 in	15-600 psi	Air	UV
1 NPS	1.25 NPS	0.34 in <sup>2</sup>	0.658 in	0.164 in	15-500 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.486 in <sup>2</sup>	0.787 in	0.197 in	15-600 psi	Air	UV
1.25 NPS	1.5 NPS	0.645 in <sup>2</sup>	0.906 in	0.227 in	15-500 psi	Air	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.286 in	15-500 psi	Air	UV
2-2.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.364 in	15-500 psi	Air	UV

Design Name:	HL, HSL	NBCert #	15589
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 03/10/2029

#### Design Type

[Safety Valve] HL, HSL  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on November 3, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	1.5 NPS	0.339 in <sup>2</sup>	[F] 0.657 in	0.164 in	15-725 psi	Steam	UV, V
1.25-2 NPS	1.5 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.21 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.868 in <sup>2</sup>	[H] 1.051 in	0.263 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.327 in <sup>2</sup>	[J] 1.3 in	0.325 in	15-725 psi	Steam	UV, V
2-3 NPS	3-4 NPS	2.046 in <sup>2</sup>	[K] 1.614 in	0.404 in	15-725 psi	Steam	UV, V
2.5-4 NPS	4-6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-725 psi	Steam	UV, V
3 NPS	4-6 NPS	3.955 in <sup>2</sup>	[M] 2.244 in	0.561 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	4.831 in <sup>2</sup>	[N] 2.48 in	0.62 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	7.031 in <sup>2</sup>	[P] 2.992 in	0.748 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[QQ] 3.75 in	0.937 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	12.174 in <sup>2</sup>	[Q] 3.937 in	0.984 in	15-725 psi	Steam	UV, V

Design Name:	JLT-JOS/JLT-JBS/JLT-JDS (Liquids)	NBCert #	15095
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 09/15/2029

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV

1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/19/2029

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV

0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV

8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

Design Name:	Kunkle 337	NBCert #	36278
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/19/2029

### Design Type

[Safety Relief Valve] Kunkle 337  
Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name:	Kunkle 6000, 6252 Series	NBCert #	36324
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/19/2029

### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V

0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name: Kunkle 910 to 919

NBCert # 36100

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/19/2029



## Design Type

[Safety Relief Valve] Kunkle 910 to 919  
 Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid) NBCert # 36111

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/19/2029

## Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
 Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.710 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

## LCM Industries, Inc. (LCM)

Odessa, TX 79763United States

### This Company Manufactures or Assembles:

Design Name:	2600 & 2600S	NBCert #	57057
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	09/07/2030	

### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV

6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

10/03/2030

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV

2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids) NBCert # 57068

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/03/2030

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V

4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/07/2030

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids)		NBCert #	57248
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	09/07/2030
Design Type			
[Relief Valve] 2700L, 3700L (Liquids) Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.676 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800		NBCert #	57024
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	09/07/2030
Design Type			
[Pilot Operated Pressure Relief Valve] 3800 Capacity Tests: Sec. UV at unknown lab on May 20, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.859 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition(1): Pop; (3): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV

1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800FP

NBCert #

57035

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

01/14/2031

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.801 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (3): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV

2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/07/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV



10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV
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LESER - The Safety Valve (Tianjin) Ltd. (LST)

Nameplate Abbreviation: LESER CN

Tianjin, 301700People's Republic of China

**This Company Manufactures or Assembles:**

Design Name: 237, 237IC, 237CC		NBCert # 37325
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/12/2029
Design Type		
<p>[Safety Relief Valve] 237, 237IC, 237CC Capacity Tests: Sec. UV at Leser Gmbh &amp; Co., KG on August 14, 2017 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.987 SCFM/PSIA; (alternate medium): 2.773 PPH/PSIA Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH &amp; Co. KG {LES}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-2610 psi	Air	UV
0.375-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-2610 psi	Steam	UV

Design Name: 237, 237IC, 237CC (Liquid)		NBCert # 37336
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/13/2029
Design Type		
<p>[Relief Valve] 237, 237IC, 237CC (Liquid) Capacity Tests: Sec. UV at Leser Gmbh &amp; Co., KG on August 14, 2017 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.591 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH &amp; Co. KG {LES}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.058 in <sup>2</sup>	0.394 in	0.039 in	15-2610 psi	Water	UV

Design Name: 441/442/444			NBCert # 37044	
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UV		12/13/2029

## Design Type

[Safety Relief Valve] 441/442/444  
 Capacity Tests: Sec. UV at Leser GmbH & Co., KG on February 17, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.699 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Air	UV
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Steam	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Air	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Steam	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Air	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Steam	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Air	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Steam	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Air	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Steam	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Air	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Steam	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Air	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Steam	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Air	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Steam	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Air	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Steam	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Air	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Steam	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Air	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Steam	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Air	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Steam	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Air	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Steam	UV

Design Name: 441/442/444 liquids NBCert # 37055

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/12/2029

## Design Type

[Relief Valve] 441/442/444 liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on September 6, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.521 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Water	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Water	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Water	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Water	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Water	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Water	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Water	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Water	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Water	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Water	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Water	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Water	UV

Design Name: 459/462

NBCert # 37112

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/12/2029

## Design Type

[Safety Relief Valve] 459/462  
Capacity Tests: Sec. UV at National Board Testing Lab on February 17, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.811 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Air	UV
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Air	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Air	UV

1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Steam	UV
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Design Name:	459/462 liquids	NBCert #	37101
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/13/2029

#### Design Type

[Relief Valve] 459/462 liquids  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.566 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Water	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Water	UV
0.5-1.5 NPS	1-2.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Water	UV
1-2 NPS	1.5-2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Water	UV

Design Name:	526 (Liquids)	NBCert #	37235
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/12/2029

#### Design Type

[Relief Valve] 526 (Liquids)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 2, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.579 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Water	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Water	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Water	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Water	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.6698 in	15-1850 psi	Water	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Water	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Water	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Water	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.249 in	15-1038.5 psi	Water	UV

6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Water	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-914 psi	Water	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Water	UV

Design Name: 526D NBCert # 37246

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/05/2031

#### Design Type

[Safety Relief Valve] 526D  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.990 SCFM/PSIA; (alternate medium): 5.590 PPH/PSIA  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-10878 psi	Air	UV

Design Name: 526D Liquids NBCert # 37257

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/12/2029

#### Design Type

[Relief Valve] 526D Liquids  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.110 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-10878 psi	Water	UV

## LESER GmbH & Co. KG (LES)

Nameplate Abbreviation: LESER

Hohenwestedt, 24594Germany

### This Company Manufactures or Assembles:

Design Name: 237, 237IC, 237CC NBCert # 37325

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/23/2030

## Design Type

[Safety Relief Valve] 237, 237IC, 237CC  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on August 14, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.987 SCFM/PSIA; (alternate medium): 2.773 PPH/PSIA  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-2610 psi	Air	UV
0.375-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-2610 psi	Steam	UV

Design Name: 237, 237IC, 237CC (Liquid) NBCert # 37336

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

12/07/2029

## Design Type

[Relief Valve] 237, 237IC, 237CC (Liquid)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on August 14, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.591 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.058 in <sup>2</sup>	0.394 in	0.039 in	15-2610 psi	Water	UV

Design Name: 437 NBCert # 37213

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

02/05/2030

## Design Type

[Safety Relief Valve] 437  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 8, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.020 SCFM/PSIA; (alternate medium): 2.870 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-1 NPS	0.5 - 1 NPS	0.082 in <sup>2</sup>	0.394 in	0.055 in	15-2610 psi	Air	UV
0.375-1 NPS	0.5 - 1 NPS	0.082 in <sup>2</sup>	0.394 in	0.055 in	15-2610 psi	Steam	UV

Design Name: 437 (Liquids)		NBCert # 37189
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/05/2030
Design Type		
[Relief Valve] 437 (Liquids) Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on November 22, 2001 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.540 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH & Co. KG {LES}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5 - 1 NPS	0.082 in²	0.394 in	0.055 in	15-2610 psi	Water	UV

Design Name: 438 Sub Types 481, 439		NBCert # 37190
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/05/2030
Design Type		
[Safety Relief Valve] 438 Sub Types 481, 439 Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on November 12, 2001 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.904 SCFM/PSIA; (alternate medium): 2.530 PPH/PSIA Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH & Co. KG {LES}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-1 NPS	0.5 - 1 NPS	0.064 in²	0.394 in	0.043 in	15-2610 psi	Air	UV
0.375-1 NPS	0.5 - 1 NPS	0.064 in²	0.394 in	0.043 in	15-2610 psi	Steam	UV

Design Name: 438 Sub Types 481, 439, Liquids		NBCert # 37202
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/05/2030
Design Type		
[Safety Relief Valve] 438 Sub Types 481, 439, Liquids Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on November 23, 2001 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.490 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH & Co. KG {LES}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.064 in²	0.394 in	0.043 in	15-2610 psi	Water	UV

Design Name:	441/442/444	NBCert #	37044
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	02/05/2030
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#### Design Type

[Safety Relief Valve] 441/442/444  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on February 17, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.699 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Air	UV
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Steam	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Air	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Steam	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Air	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Steam	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Air	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Steam	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Air	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Steam	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Air	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Steam	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Air	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Steam	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Air	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Steam	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Air	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Steam	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Air	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Steam	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Air	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Steam	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Air	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Steam	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Air	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Steam	UV



Design Name:	441/442/444 liquids	NBCert #	37055
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/05/2030

### Design Type

[Relief Valve] 441/442/444 liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on September 6, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.521 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Water	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Water	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Water	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Water	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Water	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Water	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Water	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Water	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Water	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Water	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Water	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Water	UV

Design Name:	447 Air/Gas	NBCert #	37123
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/05/2030

### Design Type

[Safety Relief Valve] 447 Air/Gas  
Capacity Tests: Sec. UV at National Board Testing Lab on May 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.617 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.644 in <sup>2</sup>	0.905 in	0.19 in	15-240 psi	Air	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.44 in	15-240 psi	Air	UV
3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.52 in	15-240 psi	Air	UV

4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	0.91 in	15-240 psi	UV
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Design Name:	447 Liquid	NBCert #	37134
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/05/2030

Design Type
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[Relief Valve] 447 Liquid  
Capacity Tests: Sec. UV at National Board Testing Lab on May 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.431 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.644 in <sup>2</sup>	0.906 in	0.19 in	15-240 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.44 in	15-240 psi	Water	UV
3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.52 in	15-240 psi	Water	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	0.91 in	15-240 psi	Water	UV

Design Name:	455/456/457/458 Group 1	NBCert #	37066
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/05/2030

Design Type
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[Safety Relief Valve] 455/456/457/458 Group 1  
Capacity Tests: Sec. UV at National Board Testing Lab on February 17, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.798 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.274 in <sup>2</sup>	0.591 in	0.197 in	35-1928 psi	Steam	UV
1 NPS	2 NPS	0.274 in <sup>2</sup>	0.591 in	0.197 in	35-5715 psi	Air	UV
1 NPS	2 NPS	0.487 in <sup>2</sup>	0.787 in	0.256 in	35-2571 psi	Steam	UV
1 NPS	2 NPS	0.487 in <sup>2</sup>	0.787 in	0.256 in	35-3571 psi	Air	UV
2 NPS	3 NPS	1.096 in <sup>2</sup>	1.181 in	0.354 in	35-2392 psi	Steam	UV
2 NPS	3 NPS	1.096 in <sup>2</sup>	1.181 in	0.354 in	35-3571 psi	Air	UV
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.551 in	35-1630 psi	Air	UV
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.551 in	35-1630 psi	Steam	UV
3 NPS	4 NPS	1.948 in <sup>2</sup>	1.575 in	0.551 in	35-2115 psi	Air	UV
3 NPS	4 NPS	1.948 in <sup>2</sup>	1.575 in	0.551 in	35-2115 psi	Steam	UV
4 NPS	6 NPS	3.043 in <sup>2</sup>	1.969 in	0.866 in	35-2205 psi	Steam	UV

4 NPS	6 NPS	3.043 in <sup>2</sup>	1.969 in	0.866 in	35-3290 psi	Air	UV
4 NPS	6 NPS	6.666 in <sup>2</sup>	2.362 in	0.866 in	35-2130 psi	Air	UV
4 NPS	6 NPS	6.666 in <sup>2</sup>	2.362 in	0.866 in	35-2130 psi	Steam	UV
4 NPS	6 NPS	6.666 in <sup>2</sup>	2.913 in	0.827 in	35-1100 psi	Air	UV
4 NPS	6 NPS	6.666 in <sup>2</sup>	2.913 in	0.827 in	35-1100 psi	Steam	UV

Design Name: 455/456/457/458 Group 1 (Liq) NBCert # 37077

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/05/2030

#### Design Type

[Relief Valve] 455/456/457/458 Group 1 (Liq)  
Capacity Tests: Sec. UV at National Board Testing Lab on January 30, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.572 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.274 in <sup>2</sup>	0.591 in	0.197 in	35-5715 psi	Water	UV
1 NPS	2 NPS	0.487 in <sup>2</sup>	0.787 in	0.256 in	35-2571 psi	Water	UV
2 NPS	3 NPS	1.096 in <sup>2</sup>	1.181 in	0.654 in	35-3571 psi	Water	UV
2 NPS	3 NPS	1.948 in <sup>2</sup>	1.575 in	0.551 in	35-1630 psi	Water	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	1.969 in	0.709 in	35-2115 psi	Water	UV
4 NPS	6 NPS	3.043 in <sup>2</sup>	1.969 in	0.866 in	35-3290 psi	Water	UV
4 NPS	6 NPS	4.383 in <sup>2</sup>	2.362 in	0.866 in	35-2130 psi	Water	UV
4 NPS	6 NPS	6.666 in <sup>2</sup>	2.913 in	0.827 in	35-1100 psi	Water	UV

Design Name: 455/456/457/458 Group 2 (Liq) NBCert # 37099

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/05/2030

#### Design Type

[Relief Valve] 455/456/457/458 Group 2 (Liq)  
Capacity Tests: Sec. UV at National Board Testing Lab on January 30, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.479 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.866 in	35-1232 psi	Water	UV
4 NPS	6 NPS	9.427 in <sup>2</sup>	3.465 in	1.299 in	35-700 psi	Water	UV
6 NPS	10 NPS	14.73 in <sup>2</sup>	4.331 in	1.22 in	35-575 psi	Water	UV

Design Name: 459/462		NBCert # 37112
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/05/2030
Design Type		
[Safety Relief Valve] 459/462 Capacity Tests: Sec. UV at National Board Testing Lab on February 17, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.811 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Air	UV
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Air	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Steam	UV

Design Name: 459/462 liquids		NBCert # 37101
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/05/2030
Design Type		
[Relief Valve] 459/462 liquids Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.566 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Water	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Water	UV
0.5-1.5 NPS	1-2.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Water	UV
1-2 NPS	1.5-2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Water	UV

Design Name:	483, 484, 485 (0.512 orifice)	NBCert #	37145
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/09/2029

#### Design Type

[Safety Relief Valve] 483, 484, 485 (0.512 orifice)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 4, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.960 SCFM/PSIA; (alternate medium): 5.500 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	1.5 NPS	0.127 in <sup>2</sup>	0.512 in	0.079 in	15-232 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.127 in <sup>2</sup>	0.512 in	0.079 in	15-232 psi	Steam	UV

Design Name:	483, 484, 485 (0.512 orifice) Liquids	NBCert #	37156
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/01/2029

#### Design Type

[Relief Valve] 483, 484, 485 (0.512 orifice) Liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 8, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.960 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	1.5 NPS	0.157 in <sup>2</sup>	0.512 in	0.098 in	15-232 psi	Water	UV

Design Name:	483, 484, 485 (0.984 orifice)	NBCert #	37167
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/14/2029

#### Design Type

[Safety Relief Valve] 483, 484, 485 (0.984 orifice)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on February 1, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 4.960 SCFM/PSIA; (alternate medium): 13.930 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.427 in <sup>2</sup>	0.984 in	0.139 in	15-232 psi	Air	UV

1.5-2 NPS	2 NPS	0.427 in <sup>2</sup>	0.984 in	0.139 in	15-232 psi	Steam	UV
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Design Name:	483, 484, 485 (0.984 orifice) Liquids	NBCert #	37178
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/01/2029

#### Design Type

[Relief Valve] 483, 484, 485 (0.984 orifice) Liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on May 1, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.460 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.485 in <sup>2</sup>	0.984 in	0.157 in	15-232 psi	Water	UV

Design Name:	488	NBCert #	37022
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/07/2029

#### Design Type

[Safety Relief Valve] 488  
Capacity Tests: Sec. UV at National Board Testing Lab on May 31, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.721 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.256 in	20-232 psi	Air	UV
1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.256 in	20-232 psi	Steam	UV
1.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.416 in	20-232 psi	Air	UV
1.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.416 in	20-232 psi	Steam	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.512 in	20-232 psi	Air	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.512 in	20-232 psi	Steam	UV
2.5 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.674 in	20-232 psi	Air	UV
2.5 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.674 in	20-232 psi	Steam	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.832 in	20-232 psi	Air	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.832 in	20-232 psi	Steam	UV
4 NPS	6 NPS	10.3 in <sup>2</sup>	3.622 in	1.035 in	20-232 psi	Air	UV
4 NPS	6 NPS	10.3 in <sup>2</sup>	3.622 in	1.035 in	20-232 psi	Steam	UV

Design Name:	488 (Liquids)	NBCert #	37033
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/07/2029

Design Type
[Relief Valve] 488 (Liquids) Capacity Tests: Sec. UV at National Board Testing Lab on June 1, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.472 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.644 in <sup>2</sup>	0.906 in	0.216 in	15-232 psi	Water	UV
1.5 NPS	2.5 NPS	1.667 in <sup>2</sup>	1.457 in	0.347 in	15-232 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.431 in	15-232 psi	Water	UV
2.5 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.562 in	15-232 psi	Water	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.693 in	15-232 psi	Water	UV
4 NPS	6 NPS	10.3 in <sup>2</sup>	3.622 in	0.862 in	15-232 psi	Water	UV

Design Name:	526	NBCert #	37224
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/05/2030

Design Type
[Safety Relief Valve] 526 Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 22, 2001 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.801 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Air	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-2900 psi	Steam	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Air	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Air	UV

3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-2900 psi	Steam	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Steam	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Air	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Steam	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Air	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Steam	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Air	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Steam	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Air	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Steam	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Air	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Steam	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Air	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Steam	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Air	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Steam	UV

Design Name: 526 (Liquids) NBCert # 37235

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/05/2030

#### Design Type

[Relief Valve] 526 (Liquids)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 2, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.579 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Water	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Water	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Water	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Water	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.6698 in	15-1850 psi	Water	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Water	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Water	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Water	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.249 in	15-1038.5 psi	Water	UV



6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Water	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-914 psi	Water	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Water	UV

Design Name: 526D NBCert # 37246

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/05/2030

#### Design Type

[Safety Relief Valve] 526D  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.990 SCFM/PSIA; (alternate medium): 5.590 PPH/PSIA  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-10878 psi	Air	UV

Design Name: 526D Liquids NBCert # 37257

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/05/2030

#### Design Type

[Relief Valve] 526D Liquids  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.110 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-10878 psi	Water	UV

Design Name: 526FB NBCert # 37314

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/18/2026

#### Design Type

[Safety Relief Valve] 526FB  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on September 5, 2014  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - ; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 3 in	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-7758 psi	Air	UV
1.5-2 in	3 in	0.616 in <sup>2</sup>	[G] 0.616 in	0.268 in	15-3705 psi	Air	UV
1.5 in	2, 3 in	0.394 in <sup>2</sup>	[F] 0.709 in	0.216 in	15-9210 psi	Air	UV
1.5-2 in	3 in	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-2750 psi	Air	UV
2-3 in	3, 4 in	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-2700 psi	Air	UV
3 in	4, 6 in	2.251 in <sup>2</sup>	[K] 1.693 in	0.531 in	15-2220 psi	Air	UV
3-4 in	4, 6 in	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1500 psi	Air	UV
4 in	6 in	4.426 in <sup>2</sup>	[M] 2.374 in	0.846 in	15-1100 psi	Air	UV
4 in	6 in	5.302 in <sup>2</sup>	[N] 2.598 in	0.826 in	15-2760 psi	Air	UV
4 in	6 in	7.79 in <sup>2</sup>	[P] 3.15 in	1.035 in	15-1000 psi	Air	UV
6 in	8 in	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-914 psi	Air	UV
6 in	8, 10 in	19.325 in <sup>2</sup>	[R] 4.961 in	1.496 in	15-522 psi	Air	UV
8 in	10 in	31.749 in <sup>2</sup>	[T] 6.358 in	1.929 in	15-522 psi	Air	UV

Design Name: 526FB (Liquid)	NBCert # 37303
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	09/18/2026
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#### Design Type

[Safety Relief Valve] 526FB (Liquid)  
 Capacity Tests: Sec. UV at Leser GmbH & Co., KG on April 14, 2014  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.579 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 3 in	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-7758 psi	Water	UV
1.5 in	2, 3 in	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-9210 psi	Water	UV
1.5-2 in	3 in	0.616 in <sup>2</sup>	[G] 0.886 in	0.267 in	15-3705 psi	Water	UV
1.5-2 in	3 in	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-2750 psi	Water	UV
2-3 in	3, 4 in	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-2700 psi	Water	UV
3 in	4, 6 in	2.251 in <sup>2</sup>	[K] 1.693 in	0.531 in	15-2220 psi	Water	UV
3-4 in	4, 6 in	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1500 psi	Water	UV
4 in	6 in	4.426 in <sup>2</sup>	[M] 2.374 in	0.846 in	15-1100 psi	Water	UV
4 in	6 in	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Water	UV
4 in	6 in	7.79 in <sup>2</sup>	[P] 3.15 in	1.035 in	15-1000 psi	Water	UV
6 in	8 in	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-914 psi	Water	UV
6 in	8,10 in	19.325 in <sup>2</sup>	[R] 4.961 in	1.496 in	15-522 psi	Water	UV
8 in	10 in	31.749 in <sup>2</sup>	[T] 6.358 in	1.929 in	15-522 psi	Water	UV

Design Name: 810/820 (811/814/821/824)	NBCert # 37280
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	11/11/2026
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#### Design Type

[Pilot Operated Pressure Relief Valve] 810/820 (811/814/821/824)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on October 31, 2009  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.820 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.394 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.394 in	15-740 psi	Steam	UV
1-1 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 mm	0.315 in	15-10000 psi	Air	UV
1-1 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 mm	0.315 in	15-740 psi	Steam	UV
1 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.315 in	15-10000 psi	Air	UV
1 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.315 in	15-740 psi	Steam	UV
1.5 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.394 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.394 in	15-740 psi	Steam	UV
1 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.315 in	15-10000 psi	Air	UV
1 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.315 in	15-740 psi	Steam	UV
1.5 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.394 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.394 in	15-740 psi	Steam	UV
1 NPS	2 NPS	0.644 in <sup>2</sup>	[FB] 0.906 in	0.453 in	15-10000 psi	Air	UV
1 NPS	2 NPS	0.644 in <sup>2</sup>	[FB] 0.906 in	0.453 in	15-740 psi	Steam	UV
1.5 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.472 in	15-10000 psi	Air	UV
1.5 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.472 in	15-740 psi	Steam	UV
2 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.591 in	15-10000 psi	Air	UV
2 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.591 in	15-740 psi	Steam	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	[FB] 1.142 in	0.571 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	[FB] 1.142 in	0.571 in	15-740 psi	Steam	UV
1.5 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.472 in	15-10000 psi	Air	UV
1.5 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.472 in	15-740 psi	Steam	UV
2 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.591 in	15-10000 psi	Air	UV
2 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.591 in	15-740 psi	Steam	UV
1.5 NPS	3 NPS	1.552 in <sup>2</sup>	[FB] 1.406 in	0.709 in	15-10000 psi	Air	UV
1.5 NPS	3 NPS	1.552 in <sup>2</sup>	[FB] 1.406 in	0.709 in	15-740 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.758 in <sup>2</sup>	[J] 1.496 in	0.591 in	15-10000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.758 in <sup>2</sup>	[J] 1.496 in	0.591 in	15-740 psi	Steam	UV
3 NPS	4 NPS	2.465 in <sup>2</sup>	[K] 1.772 in	0.866 in	15-10000 psi	Air	UV

3 NPS	4 NPS	2.465 in <sup>2</sup>	[K] 1.772 in	0.866 in	15-740 psi	Steam	UV
2 NPS	3 NPS	2.805 in <sup>2</sup>	[FB] 1.89 in	0.866 in	15-10000 psi	Air	UV
2 NPS	3 NPS	2.805 in <sup>2</sup>	[FB] 1.89 in	0.866 in	15-740 psi	Steam	UV
3 NPS	4 NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.866 in	15-10000 psi	Air	UV
3 NPS	4 NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.866 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.787 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.787 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	4.832 in <sup>2</sup>	[M] 2.48 in	0.787 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	4.832 in <sup>2</sup>	[M] 2.48 in	0.787 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	5.796 in <sup>2</sup>	[N] 2.717 in	0.787 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	5.796 in <sup>2</sup>	[N] 2.717 in	0.787 in	15-740 psi	Steam	UV
3 NPS	4 NPS	6.848 in <sup>2</sup>	[FB] 2.953 in	1.339 in	15-10000 psi	Air	UV
3 NPS	4 NPS	6.848 in <sup>2</sup>	[FB] 2.953 in	1.339 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	8.386 in <sup>2</sup>	[P] 3.268 in	1.339 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	8.386 in <sup>2</sup>	[P] 3.268 in	1.339 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	10.987 in <sup>2</sup>	[FB] 3.74 in	1.693 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	10.987 in <sup>2</sup>	[FB] 3.74 in	1.693 in	15-740 psi	Steam	UV
6 NPS	8, 8 Dual NPS	14.73 in <sup>2</sup>	[Q] 4.331 in	2.165 in	15-1500 psi	Air	UV
6 NPS	8, 8 Dual NPS	14.73 in <sup>2</sup>	[Q] 4.331 in	2.165 in	15-740 psi	Steam	UV
6 NPS	8, 8 Dual NPS	21.534 in <sup>2</sup>	[R] 5.236 in	2.165 in	15-1500 psi	Air	UV
6 NPS	8, 8 Dual NPS	21.534 in <sup>2</sup>	[R] 5.236 in	2.165 in	15-740 psi	Steam	UV
6 NPS	8, 8 Dual NPS	24.547 in <sup>2</sup>	[FB] 5.591 in	2.559 in	15-1500 psi	Air	UV
6 NPS	8, 8 Dual NPS	24.547 in <sup>2</sup>	[FB] 5.591 in	2.559 in	15-740 psi	Steam	UV
8 NPS	10, 10 Dual NPS	34.359 in <sup>2</sup>	[T] 6.614 in	3.15 in	15-1500 psi	Air	UV
8 NPS	10, 10 Dual NPS	34.359 in <sup>2</sup>	[T] 6.614 in	3.15 in	15-740 psi	Steam	UV
8 NPS	10, 10 Dual NPS	39.443 in <sup>2</sup>	[FB] 7.087 in	3.15 in	15-1500 psi	Air	UV
8 NPS	10, 10 Dual NPS	39.443 in <sup>2</sup>	[FB] 7.087 in	3.15 in	15-740 psi	Steam	UV

Design Name: 820 (liquid) (821/824)

NBCert #

37268

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

11/11/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 820 (liquid) (821/824)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 6, 2009  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.689 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.315 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.394 in	15-10000 psi	Water	UV

1 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.315 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.394 in	15-10000 psi	Water	UV
1 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.315 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.394 in	15-10000 psi	Water	UV
1 NPS	2 NPS	0.644 in <sup>2</sup>	[FB] 0.906 in	0.453 in	15-10000 psi	Water	UV
1.5 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.472 in	15-10000 psi	Water	UV
2 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.591 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	1.142 in <sup>2</sup>	[FB] 1.142 in	0.571 in	15-10000 psi	Water	UV
1.5 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.472 in	15-10000 psi	Water	UV
2 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.591 in	15-10000 psi	Water	UV
1.5 NPS	3 NPS	1.552 in <sup>2</sup>	[FB] 1.406 in	0.709 in	15-10000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.758 in <sup>2</sup>	[J] 1.496 in	0.591 in	15-10000 psi	Water	UV
3 NPS	4 NPS	2.465 in <sup>2</sup>	[K] 1.772 in	0.866 in	15-10000 psi	Water	UV
2 NPS	3 NPS	2.805 in <sup>2</sup>	[FB] 1.89 in	0.866 in	15-10000 psi	Water	UV
3 NPS	4 NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.866 in	15-10000 psi	Water	UV
4 NPS	6, 6 Dual NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.787 in	15-3750 psi	Water	UV
4 NPS	6, 6 Dual NPS	4.832 in <sup>2</sup>	[M] 2.48 in	0.787 in	15-3750 psi	Water	UV
4 NPS	6, 6 Dual NPS	5.796 in <sup>2</sup>	[N] 2.717 in	0.787 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.848 in <sup>2</sup>	[FB] 2.953 in	1.339 in	15-10000 psi	Water	UV
4 NPS	6, 6 Dual NPS	8.386 in <sup>2</sup>	[P] 3.268 in	1.339 in	15-3750 psi	Water	UV
4 NPS	6, 6 Dual NPS	10.987 in <sup>2</sup>	[FB] 3.74 in	1.693 in	15-3750 psi	Water	UV
6 NPS	8, 8 Dual NPS	14.73 in <sup>2</sup>	[Q] 4.331 in	2.165 in	15-1500 psi	Water	UV
6 NPS	8, 8 Dual NPS	21.534 in <sup>2</sup>	[R] 5.236 in	2.165 in	15-1500 psi	Water	UV
6 NPS	8, 8 Dual NPS	24.547 in <sup>2</sup>	[FB] 5.591 in	2.559 in	15-1500 psi	Water	UV
8 NPS	10, 10 Dual NPS	34.359 in <sup>2</sup>	[T] 6.614 in	3.15 in	15-1500 psi	Water	UV
8 NPS	10, 10 Dual NPS	39.443 in <sup>2</sup>	[FB] 7.087 in	3.15 in	15-1500 psi	Water	UV

## LESER INDIA PRIVATE LIMITED (FLV)

Nameplate Abbreviation: LESER INDIA

Maharashtra, 431 148India

### This Company Manufactures or Assembles:

Design Name: 237, 237IC, 237CC		NBCert # 37325
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/21/2030

**Design Type**

[Safety Relief Valve] 237, 237IC, 237CC  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on August 14, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.987 SCFM/PSIA; (alternate medium): 2.773 PPH/PSIA  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-2610 psi	Air	UV
0.375-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-2610 psi	Steam	UV

Design Name: 237, 237IC, 237CC (Liquid) NBCert # 37336

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

08/21/2030

**Design Type**

[Relief Valve] 237, 237IC, 237CC (Liquid)  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on August 14, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.591 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.058 in <sup>2</sup>	0.394 in	0.039 in	15-2610 psi	Water	UV

Design Name: 447 Air/Gas NBCert # 37123

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

09/11/2029

**Design Type**

[Safety Relief Valve] 447 Air/Gas  
Capacity Tests: Sec. UV at National Board Testing Lab on May 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.617 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.644 in <sup>2</sup>	0.905 in	0.19 in	15-240 psi	Air	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.44 in	15-240 psi	Air	UV
3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.52 in	15-240 psi	Air	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	0.91 in	15-240 psi		UV

Design Name:	447 Liquid	NBCert #	37134
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 09/11/2029

#### Design Type

[Relief Valve] 447 Liquid  
Capacity Tests: Sec. UV at National Board Testing Lab on May 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.431 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.644 in <sup>2</sup>	0.906 in	0.19 in	15-240 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.44 in	15-240 psi	Water	UV
3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.52 in	15-240 psi	Water	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	0.91 in	15-240 psi	Water	UV

Design Name:	459/462	NBCert #	37112
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 06/15/2027

#### Design Type

[Safety Relief Valve] 459/462  
Capacity Tests: Sec. UV at National Board Testing Lab on February 17, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.811 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Air	UV
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Air	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Steam	UV

Design Name:	459/462 liquids	NBCert #	37101
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 06/15/2027

## Design Type

[Relief Valve] 459/462 liquids  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.566 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Water	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Water	UV
0.5-1.5 NPS	1-2.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Water	UV
1-2 NPS	1.5-2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Water	UV

Design Name: 526 NBCert # 37224

## Manufacturer/Assembler

## Designators

## Expiration Date

Manufacturer

UV

06/15/2027

## Design Type

[Safety Relief Valve] 526  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 22, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Air	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-2900 psi	Steam	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Air	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Air	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-2900 psi	Steam	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Steam	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Air	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Steam	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Air	UV



4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Steam	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Air	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Steam	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Air	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Steam	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Air	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Steam	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Air	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Steam	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Air	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Steam	UV

Design Name: 526 (Liquids)	NBCert # 37235
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 06/15/2027

#### Design Type

[Relief Valve] 526 (Liquids)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 2, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.579 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Water	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Water	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Water	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Water	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.6698 in	15-1850 psi	Water	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Water	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Water	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Water	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.249 in	15-1038.5 psi	Water	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Water	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-914 psi	Water	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Water	UV

Design Name: 526D		NBCert # 37246					
Manufacturer/Assembler		Designators	Expiration Date				
Manufacturer		UV	06/15/2027				
Design Type							
[Safety Relief Valve] 526D Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.990 SCFM/PSIA; (alternate medium): 5.590 PPH/PSIA Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Adjustable Flow Area Configuration: Curtain Area Designed by: LESER GmbH & Co. KG {LES}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in²	[D] 0.551 in	0.0551 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.121 in²	[D] 0.551 in	0.0551 in	15-10878 psi	Air	UV

Design Name: 526D Liquids		NBCert # 37257
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/15/2027
Design Type		
[Relief Valve] 526D Liquids Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.110 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH & Co. KG {LES}		

Design Name: 810/820 (811/814/821/824)		NBCert #	37280
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	06/08/2028
Design Type			
[Pilot Operated Pressure Relief Valve] 810/820 (811/814/821/824) Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on October 31, 2009 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.820 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}			

1.5 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.394 in	15-740 psi	Steam	UV
1-1 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 mm	0.315 in	15-10000 psi	Air	UV
1-1 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 mm	0.315 in	15-740 psi	Steam	UV
1 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.315 in	15-10000 psi	Air	UV
1 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.315 in	15-740 psi	Steam	UV
1.5 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.394 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.394 in	15-740 psi	Steam	UV
1 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.315 in	15-10000 psi	Air	UV
1 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.315 in	15-740 psi	Steam	UV
1.5 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.394 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.394 in	15-740 psi	Steam	UV
1 NPS	2 NPS	0.644 in <sup>2</sup>	[FB] 0.906 in	0.453 in	15-10000 psi	Air	UV
1 NPS	2 NPS	0.644 in <sup>2</sup>	[FB] 0.906 in	0.453 in	15-740 psi	Steam	UV
1.5 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.472 in	15-10000 psi	Air	UV
1.5 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.472 in	15-740 psi	Steam	UV
2 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.591 in	15-10000 psi	Air	UV
2 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.591 in	15-740 psi	Steam	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	[FB] 1.142 in	0.571 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	[FB] 1.142 in	0.571 in	15-740 psi	Steam	UV
1.5 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.472 in	15-10000 psi	Air	UV
1.5 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.472 in	15-740 psi	Steam	UV
2 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.591 in	15-10000 psi	Air	UV
2 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.591 in	15-740 psi	Steam	UV
1.5 NPS	3 NPS	1.552 in <sup>2</sup>	[FB] 1.406 in	0.709 in	15-10000 psi	Air	UV
1.5 NPS	3 NPS	1.552 in <sup>2</sup>	[FB] 1.406 in	0.709 in	15-740 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.758 in <sup>2</sup>	[J] 1.496 in	0.591 in	15-10000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.758 in <sup>2</sup>	[J] 1.496 in	0.591 in	15-740 psi	Steam	UV
3 NPS	4 NPS	2.465 in <sup>2</sup>	[K] 1.772 in	0.866 in	15-10000 psi	Air	UV
3 NPS	4 NPS	2.465 in <sup>2</sup>	[K] 1.772 in	0.866 in	15-740 psi	Steam	UV
2 NPS	3 NPS	2.805 in <sup>2</sup>	[FB] 1.89 in	0.866 in	15-10000 psi	Air	UV
2 NPS	3 NPS	2.805 in <sup>2</sup>	[FB] 1.89 in	0.866 in	15-740 psi	Steam	UV
3 NPS	4 NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.866 in	15-10000 psi	Air	UV
3 NPS	4 NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.866 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.787 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.787 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	4.832 in <sup>2</sup>	[M] 2.48 in	0.787 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	4.832 in <sup>2</sup>	[M] 2.48 in	0.787 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	5.796 in <sup>2</sup>	[N] 2.717 in	0.787 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	5.796 in <sup>2</sup>	[N] 2.717 in	0.787 in	15-740 psi	Steam	UV
3 NPS	4 NPS	6.848 in <sup>2</sup>	[FB] 2.953 in	1.339 in	15-10000 psi	Air	UV
3 NPS	4 NPS	6.848 in <sup>2</sup>	[FB] 2.953 in	1.339 in	15-740 psi	Steam	UV

4 NPS	6, 6 Dual NPS	8.386 in <sup>2</sup>	[P] 3.268 in	1.339 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	8.386 in <sup>2</sup>	[P] 3.268 in	1.339 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	10.987 in <sup>2</sup>	[FB] 3.74 in	1.693 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	10.987 in <sup>2</sup>	[FB] 3.74 in	1.693 in	15-740 psi	Steam	UV
6 NPS	8, 8 Dual NPS	14.73 in <sup>2</sup>	[Q] 4.331 in	2.165 in	15-1500 psi	Air	UV
6 NPS	8, 8 Dual NPS	14.73 in <sup>2</sup>	[Q] 4.331 in	2.165 in	15-740 psi	Steam	UV
6 NPS	8, 8 Dual NPS	21.534 in <sup>2</sup>	[R] 5.236 in	2.165 in	15-1500 psi	Air	UV
6 NPS	8, 8 Dual NPS	21.534 in <sup>2</sup>	[R] 5.236 in	2.165 in	15-740 psi	Steam	UV
6 NPS	8, 8 Dual NPS	24.547 in <sup>2</sup>	[FB] 5.591 in	2.559 in	15-1500 psi	Air	UV
6 NPS	8, 8 Dual NPS	24.547 in <sup>2</sup>	[FB] 5.591 in	2.559 in	15-740 psi	Steam	UV
8 NPS	10, 10 Dual NPS	34.359 in <sup>2</sup>	[T] 6.614 in	3.15 in	15-1500 psi	Air	UV
8 NPS	10, 10 Dual NPS	34.359 in <sup>2</sup>	[T] 6.614 in	3.15 in	15-740 psi	Steam	UV
8 NPS	10, 10 Dual NPS	39.443 in <sup>2</sup>	[FB] 7.087 in	3.15 in	15-1500 psi	Air	UV
8 NPS	10, 10 Dual NPS	39.443 in <sup>2</sup>	[FB] 7.087 in	3.15 in	15-740 psi	Steam	UV

Design Name: 820 (liquid) (821/824)

NBCert #

37268

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

06/08/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 820 (liquid) (821/824)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 6, 2009  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.689 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.315 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.394 in	15-10000 psi	Water	UV
1 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.315 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.394 in	15-10000 psi	Water	UV
1 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.315 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.394 in	15-10000 psi	Water	UV
1 NPS	2 NPS	0.644 in <sup>2</sup>	[FB] 0.906 in	0.453 in	15-10000 psi	Water	UV
1.5 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.472 in	15-10000 psi	Water	UV
2 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.591 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	1.142 in <sup>2</sup>	[FB] 1.142 in	0.571 in	15-10000 psi	Water	UV
1.5 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.472 in	15-10000 psi	Water	UV
2 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.591 in	15-10000 psi	Water	UV
1.5 NPS	3 NPS	1.552 in <sup>2</sup>	[FB] 1.406 in	0.709 in	15-10000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.758 in <sup>2</sup>	[J] 1.496 in	0.591 in	15-10000 psi	Water	UV
3 NPS	4 NPS	2.465 in <sup>2</sup>	[K] 1.772 in	0.866 in	15-10000 psi	Water	UV

2 NPS	3 NPS	2.805 in <sup>2</sup>	[FB] 1.89 in	0.866 in	15-10000 psi	Water	UV
3 NPS	4 NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.866 in	15-10000 psi	Water	UV
4 NPS	6, 6 Dual NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.787 in	15-3750 psi	Water	UV
4 NPS	6, 6 Dual NPS	4.832 in <sup>2</sup>	[M] 2.48 in	0.787 in	15-3750 psi	Water	UV
4 NPS	6, 6 Dual NPS	5.796 in <sup>2</sup>	[N] 2.717 in	0.787 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.848 in <sup>2</sup>	[FB] 2.953 in	1.339 in	15-10000 psi	Water	UV
4 NPS	6, 6 Dual NPS	8.386 in <sup>2</sup>	[P] 3.268 in	1.339 in	15-3750 psi	Water	UV
4 NPS	6, 6 Dual NPS	10.987 in <sup>2</sup>	[FB] 3.74 in	1.693 in	15-3750 psi	Water	UV
6 NPS	8, 8 Dual NPS	14.73 in <sup>2</sup>	[Q] 4.331 in	2.165 in	15-1500 psi	Water	UV
6 NPS	8, 8 Dual NPS	21.534 in <sup>2</sup>	[R] 5.236 in	2.165 in	15-1500 psi	Water	UV
6 NPS	8, 8 Dual NPS	24.547 in <sup>2</sup>	[FB] 5.591 in	2.559 in	15-1500 psi	Water	UV
8 NPS	10, 10 Dual NPS	34.359 in <sup>2</sup>	[T] 6.614 in	3.15 in	15-1500 psi	Water	UV
8 NPS	10, 10 Dual NPS	39.443 in <sup>2</sup>	[FB] 7.087 in	3.15 in	15-1500 psi	Water	UV

<b>LESER LLC (LSR)</b>	<b>Nameplate Abbreviation: LESER LLC</b>
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Charlotte, NC 28273United States

**This Company Manufactures or Assembles:**

Design Name: 437 (Liquids)		NBCert #	37189
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	07/12/2030
Design Type			
[Relief Valve] 437 (Liquids) Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on November 22, 2001 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.540 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH & Co. KG {LES}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5 - 1 NPS	0.082 in <sup>2</sup>	0.394 in	0.055 in	15-2610 psi	Water	UV

Design Name: 441/442/444 liquids		NBCert #	37055
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	07/12/2030

## Design Type

[Relief Valve] 441/442/444 liquids  
 Capacity Tests: Sec. UV at Leser GmbH & Co., KG on September 6, 1996  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.521 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5,2 NPS	0.644 in <sup>2</sup>	0.906 in	0.277 in	15-715 psi	Water	UV
1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Water	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Water	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Water	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Water	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Water	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Water	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Water	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Water	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Water	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Water	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Water	UV

Design Name: 447 Air/Gas

NBCert #

37123

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/12/2030

## Design Type

[Safety Relief Valve] 447 Air/Gas  
 Capacity Tests: Sec. UV at National Board Testing Lab on May 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.617 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.644 in <sup>2</sup>	0.905 in	0.19 in	15-240 psi	Air	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.44 in	15-240 psi	Air	UV
3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.52 in	15-240 psi	Air	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	0.91 in	15-240 psi		UV

Design Name:	459/462 liquids	NBCert #	37101
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/12/2030

#### Design Type

[Relief Valve] 459/462 liquids  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.566 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Water	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Water	UV
0.5-1.5 NPS	1-2.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Water	UV
1-2 NPS	1.5-2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Water	UV

Design Name:	483, 484, 485 (0.512 orifice) Liquids	NBCert #	37156
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/12/2030

#### Design Type

[Relief Valve] 483, 484, 485 (0.512 orifice) Liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 8, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.960 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	1.5 NPS	0.157 in <sup>2</sup>	0.512 in	0.098 in	15-232 psi	Water	UV

Design Name:	483, 484, 485 (0.984 orifice) Liquids	NBCert #	37178
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/12/2030

#### Design Type

[Relief Valve] 483, 484, 485 (0.984 orifice) Liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on May 1, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.460 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.485 in²	0.984 in	0.157 in	15-232 psi	Water	UV
Design Name: 488 (Liquids)NBCert #37033							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			07/12/2030	
Design Type							
[Relief Valve] 488 (Liquids) Capacity Tests: Sec. UV at National Board Testing Lab on June 1, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.472 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.644 in²	0.906 in	0.216 in	15-232 psi	Water	UV
1.5 NPS	2.5 NPS	1.667 in²	1.457 in	0.347 in	15-232 psi	Water	UV
2 NPS	3 NPS	2.576 in²	1.811 in	0.431 in	15-232 psi	Water	UV
2.5 NPS	4 NPS	4.383 in²	2.362 in	0.562 in	15-232 psi	Water	UV
3 NPS	5 NPS	6.666 in²	2.913 in	0.693 in	15-232 psi	Water	UV
4 NPS	6 NPS	10.3 in²	3.622 in	0.862 in	15-232 psi	Water	UV

Design Name: 526 (Liquids)NBCert #37235							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			07/12/2030	
Design Type							
[Relief Valve] 526 (Liquids) Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on January 2, 2002 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.579 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in²	[E] 0.551 in	0.138 in	15-6000 psi	Water	UV
1.5-1.5 NPS	2,3 NPS	0.394 in²	[F] 0.709 in	0.217 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.616 in²	[G] 0.886 in	0.268 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.975 in²	[H] 1.114 in	0.323 in	15-8850 psi	Water	UV
2-3 NPS	3,4 NPS	1.578 in²	[J] 1.417 in	0.453 in	15-4134 psi	Water	UV
3 NPS	4,6 NPS	2.251 in²	[K] 1.693 in	0.532 in	15-3700 psi	Water	UV
3-4 NPS	4,6 NPS	3.484 in²	[L] 2.106 in	0.6698 in	15-1850 psi	Water	UV



4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Water	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Water	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Water	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.249 in	15-1038.5 psi	Water	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Water	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-914 psi	Water	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Water	UV

Design Name:	526D Liquids	NBCert #	37257
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/12/2030

#### Design Type

[Relief Valve] 526D Liquids  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on March 4, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.110 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-10878 psi	Water	UV

Design Name:	810/820 (811/814/821/824)	NBCert #	37280
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/06/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 810/820 (811/814/821/824)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on October 31, 2009  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.820 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.394 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.394 in	15-740 psi	Steam	UV
1-1 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 mm	0.315 in	15-10000 psi	Air	UV
1-1 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 mm	0.315 in	15-740 psi	Steam	UV
1 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.315 in	15-10000 psi	Air	UV
1 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.315 in	15-740 psi	Steam	UV
1.5 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.394 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.394 in	15-740 psi	Steam	UV

1 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.315 in	15-10000 psi	Air	UV
1 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.315 in	15-740 psi	Steam	UV
1.5 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.394 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.394 in	15-740 psi	Steam	UV
1 NPS	2 NPS	0.644 in <sup>2</sup>	[FB] 0.906 in	0.453 in	15-10000 psi	Air	UV
1 NPS	2 NPS	0.644 in <sup>2</sup>	[FB] 0.906 in	0.453 in	15-740 psi	Steam	UV
1.5 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.472 in	15-10000 psi	Air	UV
1.5 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.472 in	15-740 psi	Steam	UV
2 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.591 in	15-10000 psi	Air	UV
2 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.591 in	15-740 psi	Steam	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	[FB] 1.142 in	0.571 in	15-10000 psi	Air	UV
1.5 NPS	2 NPS	1.024 in <sup>2</sup>	[FB] 1.142 in	0.571 in	15-740 psi	Steam	UV
1.5 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.472 in	15-10000 psi	Air	UV
1.5 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.472 in	15-740 psi	Steam	UV
2 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.591 in	15-10000 psi	Air	UV
2 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.591 in	15-740 psi	Steam	UV
1.5 NPS	3 NPS	1.552 in <sup>2</sup>	[FB] 1.406 in	0.709 in	15-10000 psi	Air	UV
1.5 NPS	3 NPS	1.552 in <sup>2</sup>	[FB] 1.406 in	0.709 in	15-740 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.758 in <sup>2</sup>	[J] 1.496 in	0.591 in	15-10000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.758 in <sup>2</sup>	[J] 1.496 in	0.591 in	15-740 psi	Steam	UV
3 NPS	4 NPS	2.465 in <sup>2</sup>	[K] 1.772 in	0.866 in	15-10000 psi	Air	UV
3 NPS	4 NPS	2.465 in <sup>2</sup>	[K] 1.772 in	0.866 in	15-740 psi	Steam	UV
2 NPS	3 NPS	2.805 in <sup>2</sup>	[FB] 1.89 in	0.866 in	15-10000 psi	Air	UV
2 NPS	3 NPS	2.805 in <sup>2</sup>	[FB] 1.89 in	0.866 in	15-740 psi	Steam	UV
3 NPS	4 NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.866 in	15-10000 psi	Air	UV
3 NPS	4 NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.866 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.787 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.787 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	4.832 in <sup>2</sup>	[M] 2.48 in	0.787 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	4.832 in <sup>2</sup>	[M] 2.48 in	0.787 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	5.796 in <sup>2</sup>	[N] 2.717 in	0.787 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	5.796 in <sup>2</sup>	[N] 2.717 in	0.787 in	15-740 psi	Steam	UV
3 NPS	4 NPS	6.848 in <sup>2</sup>	[FB] 2.953 in	1.339 in	15-10000 psi	Air	UV
3 NPS	4 NPS	6.848 in <sup>2</sup>	[FB] 2.953 in	1.339 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	8.386 in <sup>2</sup>	[P] 3.268 in	1.339 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	8.386 in <sup>2</sup>	[P] 3.268 in	1.339 in	15-740 psi	Steam	UV
4 NPS	6, 6 Dual NPS	10.987 in <sup>2</sup>	[FB] 3.74 in	1.693 in	15-3750 psi	Air	UV
4 NPS	6, 6 Dual NPS	10.987 in <sup>2</sup>	[FB] 3.74 in	1.693 in	15-740 psi	Steam	UV
6 NPS	8, 8 Dual NPS	14.73 in <sup>2</sup>	[Q] 4.331 in	2.165 in	15-1500 psi	Air	UV
6 NPS	8, 8 Dual NPS	14.73 in <sup>2</sup>	[Q] 4.331 in	2.165 in	15-740 psi	Steam	UV
6 NPS	8, 8 Dual NPS	21.534 in <sup>2</sup>	[R] 5.236 in	2.165 in	15-1500 psi	Air	UV

6 NPS	8, 8 Dual NPS	21.534 in <sup>2</sup>	[R] 5.236 in	2.165 in	15-740 psi	Steam	UV
6 NPS	8, 8 Dual NPS	24.547 in <sup>2</sup>	[FB] 5.591 in	2.559 in	15-1500 psi	Air	UV
6 NPS	8, 8 Dual NPS	24.547 in <sup>2</sup>	[FB] 5.591 in	2.559 in	15-740 psi	Steam	UV
8 NPS	10, 10 Dual NPS	34.359 in <sup>2</sup>	[T] 6.614 in	3.15 in	15-1500 psi	Air	UV
8 NPS	10, 10 Dual NPS	34.359 in <sup>2</sup>	[T] 6.614 in	3.15 in	15-740 psi	Steam	UV
8 NPS	10, 10 Dual NPS	39.443 in <sup>2</sup>	[FB] 7.087 in	3.15 in	15-1500 psi	Air	UV
8 NPS	10, 10 Dual NPS	39.443 in <sup>2</sup>	[FB] 7.087 in	3.15 in	15-740 psi	Steam	UV

Design Name:	820 (liquid) (821/824)	NBCert #	37268
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/29/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 820 (liquid) (821/824)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 6, 2009  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.689 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.315 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.147 in <sup>2</sup>	[D] 0.433 in	0.394 in	15-10000 psi	Water	UV
1 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.315 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.263 in <sup>2</sup>	[E] 0.579 in	0.394 in	15-10000 psi	Water	UV
1 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.315 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	0.412 in <sup>2</sup>	[F] 0.724 in	0.394 in	15-10000 psi	Water	UV
1 NPS	2 NPS	0.644 in <sup>2</sup>	[FB] 0.906 in	0.453 in	15-10000 psi	Water	UV
1.5 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.472 in	15-10000 psi	Water	UV
2 NPS	3 NPS	0.678 in <sup>2</sup>	[G] 0.929 in	0.591 in	15-10000 psi	Water	UV
1.5 NPS	2 NPS	1.142 in <sup>2</sup>	[FB] 1.142 in	0.571 in	15-10000 psi	Water	UV
1.5 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.472 in	15-10000 psi	Water	UV
2 NPS	3 NPS	1.052 in <sup>2</sup>	[H] 1.157 in	0.591 in	15-10000 psi	Water	UV
1.5 NPS	3 NPS	1.552 in <sup>2</sup>	[FB] 1.406 in	0.709 in	15-10000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.758 in <sup>2</sup>	[J] 1.496 in	0.591 in	15-10000 psi	Water	UV
3 NPS	4 NPS	2.465 in <sup>2</sup>	[K] 1.772 in	0.866 in	15-10000 psi	Water	UV
2 NPS	3 NPS	2.805 in <sup>2</sup>	[FB] 1.89 in	0.866 in	15-10000 psi	Water	UV
3 NPS	4 NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.866 in	15-10000 psi	Water	UV
4 NPS	6, 6 Dual NPS	3.818 in <sup>2</sup>	[L] 2.205 in	0.787 in	15-3750 psi	Water	UV
4 NPS	6, 6 Dual NPS	4.832 in <sup>2</sup>	[M] 2.48 in	0.787 in	15-3750 psi	Water	UV
4 NPS	6, 6 Dual NPS	5.796 in <sup>2</sup>	[N] 2.717 in	0.787 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.848 in <sup>2</sup>	[FB] 2.953 in	1.339 in	15-10000 psi	Water	UV
4 NPS	6, 6 Dual NPS	8.386 in <sup>2</sup>	[P] 3.268 in	1.339 in	15-3750 psi	Water	UV

4 NPS	6, 6 Dual NPS	10.987 in <sup>2</sup>	[FB] 3.74 in	1.693 in	15-3750 psi	Water	UV
6 NPS	8, 8 Dual NPS	14.73 in <sup>2</sup>	[Q] 4.331 in	2.165 in	15-1500 psi	Water	UV
6 NPS	8, 8 Dual NPS	21.534 in <sup>2</sup>	[R] 5.236 in	2.165 in	15-1500 psi	Water	UV
6 NPS	8, 8 Dual NPS	24.547 in <sup>2</sup>	[FB] 5.591 in	2.559 in	15-1500 psi	Water	UV
8 NPS	10, 10 Dual NPS	34.359 in <sup>2</sup>	[T] 6.614 in	3.15 in	15-1500 psi	Water	UV
8 NPS	10, 10 Dual NPS	39.443 in <sup>2</sup>	[FB] 7.087 in	3.15 in	15-1500 psi	Water	UV

**LORCH Sicherheitsventile GmbH & Co. KG, Member of Herose Group (LRH)**

Nameplate Abbreviation: Lorch

Filderstadt, 70794Germany

This Company Manufactures or Assembles:

Design Name: 2108		NBCert # 00730	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	05/31/2029
Design Type			
[Safety Relief Valve] 2108 Capacity Tests: Sec. UV at National Board Testing Lab on December 8, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.911 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LORCH Sicherheitsventile GmbH & Co. KG, Member of Herose Group {LRH}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS		42.7 mm <sup>2</sup>	8 mm	1.7 mm	15-681 psi	Air	UV

Design Name: 2110		NBCert # 00752	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	05/31/2029
Design Type			
[Safety Relief Valve] 2110 Capacity Tests: Sec. UV at National Board Testing Lab on September 18, 2015 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.415 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LORCH Sicherheitsventile GmbH & Co. KG, Member of Herose Group {LRH}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.75 NPS		62.8 mm <sup>2</sup>	10 mm	2 mm	25-609 psi	Air	UV

Design Name: 2115		NBCert # 00707
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/31/2029
Design Type		
[Safety Relief Valve] 2115 Capacity Tests: Sec. UV at National Board Testing Lab on December 8, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 4.163 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LORCH Sicherheitsventile GmbH & Co. KG, Member of Herose Group {LRH}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS		176.7 mm <sup>2</sup>	15 mm	4.8 mm	20-435 psi	Air	UV

Design Name: 2120		NBCert # 00729
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/02/2029
Design Type		
[Safety Relief Valve] 2120 Capacity Tests: Sec. UV at National Board Testing Lab on September 18, 2015 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 7.330 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LORCH Sicherheitsventile GmbH & Co. KG, Member of Herose Group {LRH}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS		314.2 mm <sup>2</sup>	20 mm	6.7 mm	19-435 psi	Air	UV

Design Name: 2125		NBCert # 00718
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/02/2029
Design Type		
[Safety Relief Valve] 2125 Capacity Tests: Sec. UV at National Board Testing Lab on December 9, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 8.456 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LORCH Sicherheitsventile GmbH & Co. KG, Member of Herose Group {LRH}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS		490.9 mm <sup>2</sup>	25 mm	8.7 mm	15-435 psi	Air	UV

Design Name: 2207		NBCert # 00774
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/31/2029
Design Type		
[Safety Relief Valve] 2207 Capacity Tests: Sec. UV at National Board Testing Lab on September 18, 2015 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.727 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LORCH Sicherheitsventile GmbH & Co. KG, Member of Herose Group {LRH}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS	1/4-3/4 NPS	38.5 mm²	7 mm	2.3 mm	30-435 psi	Air	UV

Design Name: 2212		NBCert # 00785
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/31/2029
Design Type		
[Safety Relief Valve] 2212 Capacity Tests: Sec. UV at National Board Testing Lab on December 9, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.018 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LORCH Sicherheitsventile GmbH & Co. KG, Member of Herose Group {LRH}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.5 NPS	1/2-3/4 NPS	113.1 mm²	12 mm	3.5 mm	35-635 psi	Air	UV

Design Name: 2215		NBCert # 00796
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/02/2029
Design Type		
[Safety Relief Valve] 2215 Capacity Tests: Sec. UV at National Board Testing Lab on December 9, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.214 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LORCH Sicherheitsventile GmbH & Co. KG, Member of Herose Group {LRH}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	3/4-1 1/4 NPS	176.7 mm²	15 mm	3.5 mm	35-435 psi	Air	UV

## Luofu Valve Group Co., Ltd (LVG)

Zhejiang, 325105 People's Republic of China

### This Company Manufactures or Assembles:

Design Name: LF Series		NBCert # 23050
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/15/2028

### Design Type

[Safety Relief Valve] LF Series  
 Capacity Tests: Sec. UV at National Board Testing Lab on May 7, 2021  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Luofu Valve Group Co., Ltd {LVG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.4134 in	0.124 in	43.5-6000 psi	Air	UV
1-1.5 NPS	2-3 NPS	0.187 in <sup>2</sup>	[.488] 0.488 in	0.151 in	43.5-6000 psi	Air	UV
1-1.5 NPS	2-3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	43.5-6000 psi	Air	UV
1-1.5 NPS	2-3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	43.5-6000 psi	Air	UV
1.5-2 NPS	2.5,3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	43.5-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	43.5-6000 psi	Air	UV
2-3 NPS	3,4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	43.5-6000 psi	Air	UV
3-3 NPS	4,6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	43.5-6000 psi	Air	UV
4-4 NPS	6 NPS	2.714 in <sup>2</sup>	[1.859] 1.895 in	0.601 in	43.5-3000 psi	Air	UV
3-4 NPS	4,6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	43.5-5000 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	43.5-5000 psi	Air	UV
4-4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	43.5-3000 psi	Air	UV
4-4 NPS	6 NPS	5.444 in <sup>2</sup>	[2.633] 2.633 in	0.85 in	43.5-2250 psi	Air	UV
4-4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	43.5-3000 psi	Air	UV
6-6 NPS	8 NPS	11.045 in <sup>2</sup>	[3.75] 3.75 in	1.243 in	43.5-3750 psi	Air	UV
6-6 NPS	8 NPS	12.174 in <sup>2</sup>	[3.937] 3.937 in	1.243 in	43.5-2250 psi	Air	UV
6-6 NPS	10 NPS	12.236 in <sup>2</sup>	[3.947] 3.947 in	1.496 in	43.5-2250 psi	Air	UV
6-6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	43.5-3000 psi	Air	UV
6-6 NPS	8 NPS	15.288 in <sup>2</sup>	[4.412] 4.412 in	1.414 in	43.5-2250 psi	Air	UV
6-6 NPS	8,10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	43.5-1480 psi	Air	UV
8-8 NPS	10 NPS	18.254 in <sup>2</sup>	[4.821] 4.821 in	1.907 in	43.5-2250 psi	Air	UV
8-8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	43.5-740 psi	Air	UV
8-8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	43.5-740 psi	Air	UV

10 NPS	14 NPS	43.943 in <sup>2</sup>	[V] 7.48 in	2.244 in	43.5-285 psi	Air	UV
12 NPS	16 NPS	61.626 in <sup>2</sup>	[W] 8.858 in	2.658 in	43.5-285 psi	Air	UV
14 NPS	18 NPS	82.291 in <sup>2</sup>	[Y] 10.236 in	3.071 in	43.5-145 psi	Air	UV
16 NPS	18 NPS	95.448 in <sup>2</sup>	[Z] 11.024 in	3.307 in	43.5-145 psi	Air	UV
16 NPS	20 NPS	109.56 in <sup>2</sup>	[Z1] 11.811 in	3.543 in	43.5-145 psi	Air	UV
18 NPS	24 NPS	140.73 in <sup>2</sup>	[AA] 13.386 in	4.016 in	43.5-145 psi	Air	UV
20 NPS	24 NPS	166.66 in <sup>2</sup>	[BB] 14.567 in	4.37 in	43.5-145 psi	Air	UV

Design Name:	LFXD-0601C	NBCert #	23072
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 04/19/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] LFXD-0601C  
Capacity Tests: Sec. UV at National Board Testing Lab on August 3, 2023  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:7554.0 SCFM  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Luofu Valve Group Co., Ltd {LVG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	1.449 in <sup>2</sup>	1.358 in	0.34 in	290-290 psi	Air	UV

### Mec - Tric Control Company (MCT)

Nameplate Abbreviation: MCC

Charlotte, NC 28205United States

#### This Company Manufactures or Assembles:

Design Name:	2600 & 2600S	NBCert #	57057
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/30/2029

#### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV



1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Liquids)				NBCert # 57068			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		03/05/2026		
Design Type							
[Relief Valve] 2600L (Liquids) Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.652 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in²	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in²	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in²	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in²	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in²	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in²	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in²	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in²	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in²	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in²	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S		NBCert # 57237
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/30/2029
Design Type		
[Safety Relief Valve] 2700, 2700S, 3700, 3700S Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/14/2029
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#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 4200 / 4400		NBCert # 57282
Manufacturer/Assembler	Designators	Expiration Date
Assembler	V	03/30/2029
Design Type		
[Safety Valve] 4200 / 4400 Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.872 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

<b>MEC Cryo, LLC. (LSH)</b>	Nameplate Abbreviation: MEC
Tampa, FL 33605United States	

**This Company Manufactures or Assembles:**

Design Name: ME910		NBCert # 47067
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/05/2030
Design Type		
[Pilot Operated Pressure Relief Valve] ME910 HolderDesignation: Capacity Tests: Sec. UV at National Board Testing Lab on June 6, 2023 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:140.70 SCFM/PSIA; (alternate medium): 0.000 ; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: MEC Cryo, LLC. {LSH}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	4 NPS	14.94 in²	4.38 in	2 in	250-265 psi	Air	UV
Design Name: MEV250NBCert #47045							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			01/04/2030	
Design Type							
[Safety Relief Valve] MEV250 Capacity Tests: Sec. UV at National Board Testing Lab on December 15, 2022 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:31.200 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: MEC Cryo, LLC. {LSH}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5 NPS		2.112 in²	1.64 in	0.44 in	303-358 psi	Air	UV
Design Name: MEV300NBCert #47056							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			01/03/2029	
Design Type							
[Safety Relief Valve] MEV300 Capacity Tests: Sec. UV at National Board Testing Lab on November 21, 2022 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:26.230 SCFM/PSIA; Certification Provisions: Cert. @ 20% OP Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: MEC Cryo, LLC. {LSH}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS		2.492 in²	1.85 in		300-350 psi	Air	UV
Design Name: RXSO and RXSO-SNBCert #47001							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			08/04/2027	
Design Type							
[Safety Relief Valve] RXSO and RXSO-S Capacity Tests: Sec. UV at Louisiana State University on April 17, 1980 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.604 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Curtain Area Designed by: MEC Cryo, LLC. {LSH}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.059 in <sup>2</sup>	0.75 in	0.025 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75, 1 NPS	0.118 in <sup>2</sup>	0.75 in	0.05 in	15-400 psi	Air	UV
0.5-1 NPS	1, 1.25 NPS	0.204 in <sup>2</sup>	1 in	0.065 in	15-400 psi	Air	UV
0.75-1.25 NPS	1.25, 1.5 NPS	0.326 in <sup>2</sup>	1.25 in	0.083 in	15-400 psi	Air	UV
1-1.5 NPS	1.5, 2 NPS	0.424 in <sup>2</sup>	1.5 in	0.09 in	15-400 psi	Air	UV
1.25-2 NPS	2, 2.5 NPS	0.628 in <sup>2</sup>	2 in	0.1 in	15-400 psi	Air	UV
2.5 NPS	3 NPS	0.864 in <sup>2</sup>	2.5 in	0.11 in	15-400 psi	Air	UV
3 NPS	3, 4 NPS	1.131 in <sup>2</sup>	3 in	0.12 in	15-400 psi	Air	UV

## Mecklenburg Valve Source, LLC (MCK)

Nameplate Abbreviation: Mecklenburg Valve

Charlotte, NC 28205United States

### This Company Manufactures or Assembles:

Design Name:	Kunkle 264, 265, 266 & 267	NBCert #	36267
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	04/20/2029	
Design Type			
[Safety Relief Valve] Kunkle 264, 265, 266 & 267 Capacity Tests: Sec. UV at unknown lab on July 20, 1956 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.766 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-2000 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-3300 psi	Air	UV

Design Name:	Kunkle 300,600	NBCert #	36076
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	04/19/2029	
Design Type			
[Safety Valve] Kunkle 300,600 Capacity Tests: Sec. UV, V at unknown lab on February 10, 1961 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Air	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	V
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Air	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	V
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Air	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	V
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	UV

Design Name: Kunkle 337		NBCert # 36278	
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	04/20/2029

**Design Type**

[Safety Relief Valve] Kunkle 337  
 Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.860 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name: Kunkle 6000, 6252 Series NBCert # 36324

Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	04/19/2029
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**Design Type**

[Safety Valve] Kunkle 6000, 6252 Series  
 Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV



2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name: Kunkle 910 to 919

NBCert # 36100

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/20/2029

#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV

1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name:	Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)	NBCert #	36111
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/19/2029

### Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

## Mercer Valve Co., Inc. (MCO)

Mercer, WI 54547United States

### This Company Manufactures or Assembles:

Design Name:	81-100000 Series	NBCert #	38001
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/14/2030

### Design Type

[Safety Relief Valve] 81-100000 Series  
Capacity Tests: Sec. UV at unknown lab on November 21, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.100 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 - 2 NPS	0.212 in²	0.52 in	0.19 in	15-3500 psi	Air	UV
Design Name: 81-200000 Series			NBCert #		38023		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		06/14/2030		
Design Type							
[Safety Relief Valve] 81-200000 Series Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on February 25, 1985 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 7.210 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mercer Valve Co., Inc. {MVC}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.472 in²	0.775 in	0.3 in	15-2500 psi	Air	UV
Design Name: 9100			NBCert #		38056		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		06/14/2030		
Design Type							
[Safety Relief Valve] 9100 Capacity Tests: Sec. UV at National Board Testing Lab on July 19, 1991 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.818 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mercer Valve Co., Inc. {MVC}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in²	[C] 0.281 in	0.11 in	15-10000 psi	Air	UV
0.5-1.5 NPS	1 - 2 NPS	0.122 in²	[D] 0.394 in	0.17 in	15-7500 psi	Air	UV
0.75-2 NPS	1 - 3 NPS	0.212 in²	[E] 0.52 in	0.19 in	15-6000 psi	Air	UV
1-2 NPS	1-1/2 - 3 NPS	0.337 in²	[F] 0.655 in	0.27 in	15-5000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.472 in²	[G] 0.775 in	0.3 in	15-4000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.865 in²	[H] 1.05 in	0.41 in	15-2750 psi	Air	UV
2-3 NPS	2-1/2, 3, 4 NPS	1.43 in²	[J] 1.35 in	0.58 in	15-2700 psi	Air	UV
2-3 NPS	3-4 NPS	1.622 in²	[JO] 1.437 in	0.6 in	15-1800 psi	Air	UV
3-4 NPS	3,4,6 NPS	2.074 in²	[K] 1.625 in	0.65 in	15-2200 psi	Air	UV
3-4 NPS	4, 6 NPS	3.205 in²	[L] 2.02 in	0.8 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.08 in²	[M] 2.28 in	0.9 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.909 in²	[N] 2.5 in	0.985 in	15-740 psi	Air	UV

Mercer Valve Co., Inc. (MRB)

Bridgeport, TX 76426United States

This Company Manufactures or Assembles:

Design Name: 81-100000 Series		NBCert #	38001
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	11/07/2026
Design Type			
[Safety Relief Valve] 81-100000 Series			
Capacity Tests: Sec. UV at unknown lab on November 21, 1984			
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method			
Certified Value: 3.100 SCFM/PSIA			
Media - Test: Air/Gas; Certified: Air, Gas			
Set Pressure Definition: Pop			
Blowdown Characteristics: Fixed			
Flow Area Configuration: Nozzle/Full Lift			
Designed by: Mercer Valve Co., Inc. {MVC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 - 2 NPS	0.212 in²	0.52 in	0.19 in	15-3500 psi	Air	UV

Design Name: 81-200000 Series		NBCert #	38023
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	11/07/2026
Design Type			
[Safety Relief Valve] 81-200000 Series			
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on February 25, 1985			
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method			
Certified Value: 7.210 SCFM/PSIA			
Media - Test: Air/Gas; Certified: Air, Gas			
Set Pressure Definition: Pop			
Blowdown Characteristics: Fixed			
Flow Area Configuration: Nozzle/Full Lift			
Designed by: Mercer Valve Co., Inc. {MVC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.472 in²	0.775 in	0.3 in	15-2500 psi	Air	UV

Design Name: 9100		NBCert #	38056
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	11/27/2026

**Design Type**

[Safety Relief Valve] 9100  
Capacity Tests: Sec. UV at National Board Testing Lab on July 19, 1991  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.818 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	[C] 0.281 in	0.11 in	15-10000 psi	Air	UV
0.5-1.5 NPS	1 - 2 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.17 in	15-7500 psi	Air	UV
0.75-2 NPS	1 - 3 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.19 in	15-6000 psi	Air	UV
1-2 NPS	1-1/2 - 3 NPS	0.337 in <sup>2</sup>	[F] 0.655 in	0.27 in	15-5000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.3 in	15-4000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.865 in <sup>2</sup>	[H] 1.05 in	0.41 in	15-2750 psi	Air	UV
2-3 NPS	2-1/2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.58 in	15-2700 psi	Air	UV
2-3 NPS	3-4 NPS	1.622 in <sup>2</sup>	[JO] 1.437 in	0.6 in	15-1800 psi	Air	UV
3-4 NPS	3,4,6 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.65 in	15-2200 psi	Air	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.8 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.08 in <sup>2</sup>	[M] 2.28 in	0.9 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	0.985 in	15-740 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.2 in	15-525 psi	Air	UV

**Mercer Valve Co., Inc. (MVC)**

Oklahoma City, OK 73127United States

**This Company Manufactures or Assembles:**

Design Name: 1400 Series

NBCert #

38113

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/07/2026

**Design Type**

[Safety Relief Valve] 1400 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.291 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5-1 NPS	0.02 in <sup>2</sup>		0.06 in	150-10000 psi	Air	UV

Design Name:	81-100000 Series	NBCert #	38001
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/21/2030

#### Design Type

[Safety Relief Valve] 81-100000 Series  
Capacity Tests: Sec. UV at unknown lab on November 21, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.100 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 - 2 NPS	0.212 in <sup>2</sup>	0.52 in	0.19 in	15-3500 psi	Air	UV

Design Name:	81-100000L Liquids	NBCert #	38012
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/13/2029

#### Design Type

[Relief Valve] 81-100000L Liquids  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on July 20, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.150 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.212 in <sup>2</sup>	0.52 in	0.19 in	15-3000 psi	Water	UV

Design Name:	81-200000 Series	NBCert #	38023
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/13/2029

#### Design Type

[Safety Relief Valve] 81-200000 Series  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on February 25, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.210 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.472 in <sup>2</sup>	0.775 in	0.3 in	15-2500 psi	Air	UV

Design Name: 81-200000L Liquids		NBCert #	38034
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	07/13/2026
Design Type			
[Relief Valve] 81-200000L Liquids Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on August 21, 1990 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:12.770 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mercer Valve Co., Inc. {MVC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.472 in <sup>2</sup>	0.775 in	0.3 in	30-4000 psi	Water	UV

Design Name: 8500 Series		NBCert #	38102
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	12/13/2029
Design Type			
[Safety Relief Valve] 8500 Series Capacity Tests: Sec. UV at National Board Testing Lab on February 12, 2013 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.370 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mercer Valve Co., Inc. {MVC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-2 NPS	1, 2 NPS	0.212 in <sup>2</sup>	0.52 in	0.24 in	15-2400 psi	Air	UV

Design Name: 87-110000 Series		NBCert #	38045
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	07/13/2026
Design Type			
[Safety Relief Valve] 87-110000 Series Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on August 30, 1985 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.910 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mercer Valve Co., Inc. {MVC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.122 in <sup>2</sup>	0.394 in	0.18 in	15-6000 psi	Air	UV

Design Name:	9100	NBCert #	38056
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 07/13/2026

#### Design Type

[Safety Relief Valve] 9100  
Capacity Tests: Sec. UV at National Board Testing Lab on July 19, 1991  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.818 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	[C] 0.281 in	0.11 in	15-10000 psi	Air	UV
0.5-1.5 NPS	1 - 2 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.17 in	15-7500 psi	Air	UV
0.75-2 NPS	1 - 3 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.19 in	15-6000 psi	Air	UV
1-2 NPS	1-1/2 - 3 NPS	0.337 in <sup>2</sup>	[F] 0.655 in	0.27 in	15-5000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.3 in	15-4000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.865 in <sup>2</sup>	[H] 1.05 in	0.41 in	15-2750 psi	Air	UV
2-3 NPS	2-1/2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.58 in	15-2700 psi	Air	UV
2-3 NPS	3-4 NPS	1.622 in <sup>2</sup>	[JO] 1.437 in	0.6 in	15-1800 psi	Air	UV
3-4 NPS	3,4,6 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.65 in	15-2200 psi	Air	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.8 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.08 in <sup>2</sup>	[M] 2.28 in	0.9 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	0.985 in	15-740 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.2 in	15-525 psi	Air	UV

Design Name:	9100L (Liquids)	NBCert #	38067
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 07/13/2026

#### Design Type

[Relief Valve] 9100L (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on June 9, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.707 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	[C] 0.281 in	0.11 in	15-10000 psi	Water	UV
0.5-1 NPS	1 - 2 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.17 in	15-6500 psi	Water	UV
0.75-2 NPS	1 - 2 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.25 in	15-3500 psi	Water	UV



1-2 NPS	1.5 - 2.5 NPS	0.337 in <sup>2</sup>	[F] 0.655 in	0.32 in	15-5000 psi	Water	UV
1.5-3 NPS	2 - 3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.35 in	15-4000 psi	Water	UV
1.5-3 NPS	2 - 3 NPS	0.865 in <sup>2</sup>	[H] 1.05 in	0.52 in	15-2750 psi	Water	UV
2-4 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.62 in	15-2700 psi	Water	UV
2-3 NPS	3-4 NPS	1.622 in <sup>2</sup>	[JO] 1.437 in	0.64 in	15-1800 psi	Water	UV
3-4 NPS	3, 4 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.76 in	15-2220 psi	Water	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.82 in	15-2000 psi	Water	UV
4-4 NPS	6 NPS	4.08 in <sup>2</sup>	[M] 2.28 in	0.95 in	15-2000 psi	Water	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	0.985 in	15-740 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.2 in	15-525 psi	Water	UV

Design Name:	9500 (Full Port), S, M, E Pilots	NBCert #	38089
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	02/21/2030	

Design Type
[Pilot Operated Pressure Relief Valve] 9500 (Full Port), S, M, E Pilots Capacity Tests: Sec. UV at National Board Testing Lab on July 18, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.820 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2,3 NPS	1.767 in <sup>2</sup>	1.5 in	0.65 in	15-6170 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	1.939 in	0.85 in	15-3705 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	2.9 in	1.25 in	15-3700 psi	Air	UV
4 NPS	6 NPS	11.491 in <sup>2</sup>	3.825 in	1.675 in	15-1530 psi	Air	UV
6 NPS	8 NPS	26.067 in <sup>2</sup>	5.761 in	2.531 in	15-1480 psi	Air	UV
8 NPS	10 NPS	45.664 in <sup>2</sup>	7.625 in	3.35 in	15-1480 psi	Air	UV

Design Name:	9500 L Series	NBCert #	38090
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	03/14/2030	

Design Type
[Pilot Operated Pressure Relief Valve] 9500 L Series Capacity Tests: Sec. UV at National Board Testing Lab on December 14, 2006 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.731 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[f] 0.687 in	0.325 in	15-6170 psi	Water	UV
1.5 NPS	3 NPS	0.866 in <sup>2</sup>	[h] 1.05 in	0.485 in	15-6170 psi	Water	UV
2 NPS	3 NPS	1.431 in <sup>2</sup>	[J] 1.35 in	0.625 in	15-6170 psi	Water	UV
3 NPS	4 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.92 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	1.05 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.38 in	15-3750 psi	Water	UV
6 NPS	8 NPS	17.721 in <sup>2</sup>	[R] 4.75 in	2.185 in	15-1480 psi	Water	UV
8 NPS	10 NPS	25.967 in <sup>2</sup>	[T] 5.75 in	2.625 in	15-1480 psi	Water	UV

Design Name:	9500, S, M, E Pilots	NBCert #	38078
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/02/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 9500, S, M, E Pilots  
Capacity Tests: Sec. UV at National Board Testing Lab on July 9, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.151 in <sup>2</sup>	[D] 0.439 in	0.2 in	15-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.25 in	15-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.325 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.39 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.866 in <sup>2</sup>	[H] 1.05 in	0.485 in	15-6170 psi	Air	UV
2-3 NPS	3,4 NPS	1.431 in <sup>2</sup>	[J] 1.35 in	0.625 in	15-6170 psi	Air	UV
3 NPS	4 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.75 in	15-3705 psi	Air	UV
3-4 NPS	4,6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.92 in	15-3705 psi	Air	UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	1.05 in	15-3705 psi	Air	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	1.15 in	15-3705 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.38 in	15-3705 psi	Air	UV
6 NPS	8 NPS	12.566 in <sup>2</sup>	[Q] 4 in	1.84 in	15-1480 psi	Air	UV
6 NPS	8 NPS	17.721 in <sup>2</sup>	[R] 4.75 in	2.185 in	15-1480 psi	Air	UV
8 NPS	10 NPS	25.967 in <sup>2</sup>	[T] 5.75 in	2.625 in	15-1480 psi	Air	UV

# Mercer Valve Co., Inc. (MVC)

Nameplate Abbreviation: MVC  
HOUSTON DIVISION

Houston, TX 77087United States

## This Company Manufactures or Assembles:

Design Name:	81-100000 Series	NBCert #	38001
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/20/2028

### Design Type

[Safety Relief Valve] 81-100000 Series  
Capacity Tests: Sec. UV at unknown lab on November 21, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.100 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 - 2 NPS	0.212 in <sup>2</sup>	0.52 in	0.19 in	15-3500 psi	Air	UV

Design Name:	81-200000 Series	NBCert #	38023
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/20/2028

### Design Type

[Safety Relief Valve] 81-200000 Series  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on February 25, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.210 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	2 NPS	0.472 in <sup>2</sup>	0.775 in	0.3 in	15-2500 psi	Air	UV

Design Name:	9100	NBCert #	38056
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/20/2028

## Design Type

[Safety Relief Valve] 9100  
Capacity Tests: Sec. UV at National Board Testing Lab on July 19, 1991  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.818 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	[C] 0.281 in	0.11 in	15-10000 psi	Air	UV
0.5-1.5 NPS	1 - 2 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.17 in	15-7500 psi	Air	UV
0.75-2 NPS	1 - 3 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.19 in	15-6000 psi	Air	UV
1-2 NPS	1-1/2 - 3 NPS	0.337 in <sup>2</sup>	[F] 0.655 in	0.27 in	15-5000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.3 in	15-4000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.865 in <sup>2</sup>	[H] 1.05 in	0.41 in	15-2750 psi	Air	UV
2-3 NPS	2-1/2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.58 in	15-2700 psi	Air	UV
2-3 NPS	3-4 NPS	1.622 in <sup>2</sup>	[JO] 1.437 in	0.6 in	15-1800 psi	Air	UV
3-4 NPS	3,4,6 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.65 in	15-2200 psi	Air	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.8 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.08 in <sup>2</sup>	[M] 2.28 in	0.9 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	0.985 in	15-740 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.2 in	15-525 psi	Air	UV

Design Name: 9100L (Liquids) NBCert # 38067

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/20/2028

## Design Type

[Relief Valve] 9100L (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on June 9, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.707 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	[C] 0.281 in	0.11 in	15-10000 psi	Water	UV
0.5-1 NPS	1 - 2 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.17 in	15-6500 psi	Water	UV
0.75-2 NPS	1 - 2 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.25 in	15-3500 psi	Water	UV
1-2 NPS	1.5 - 2.5 NPS	0.337 in <sup>2</sup>	[F] 0.655 in	0.32 in	15-5000 psi	Water	UV
1.5-3 NPS	2 - 3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.35 in	15-4000 psi	Water	UV
1.5-3 NPS	2 - 3 NPS	0.865 in <sup>2</sup>	[H] 1.05 in	0.52 in	15-2750 psi	Water	UV
2-4 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.62 in	15-2700 psi	Water	UV
2-3 NPS	3-4 NPS	1.622 in <sup>2</sup>	[JO] 1.437 in	0.64 in	15-1800 psi	Water	UV

3-4 NPS	3, 4 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.76 in	15-2220 psi	Water	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.82 in	15-2000 psi	Water	UV
4-4 NPS	6 NPS	4.08 in <sup>2</sup>	[M] 2.28 in	0.95 in	15-2000 psi	Water	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	0.985 in	15-740 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.2 in	15-525 psi	Water	UV

Design Name: 9500 (Full Port), S, M, E Pilots

NBCert #

38089

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

06/03/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 9500 (Full Port), S, M, E Pilots  
Capacity Tests: Sec. UV at National Board Testing Lab on July 18, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.820 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2,3 NPS	1.767 in <sup>2</sup>	1.5 in	0.65 in	15-6170 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	1.939 in	0.85 in	15-3705 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	2.9 in	1.25 in	15-3700 psi	Air	UV
4 NPS	6 NPS	11.491 in <sup>2</sup>	3.825 in	1.675 in	15-1530 psi	Air	UV
6 NPS	8 NPS	26.067 in <sup>2</sup>	5.761 in	2.531 in	15-1480 psi	Air	UV
8 NPS	10 NPS	45.664 in <sup>2</sup>	7.625 in	3.35 in	15-1480 psi	Air	UV

Design Name: 9500, S, M, E Pilots

NBCert #

38078

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

06/03/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 9500, S, M, E Pilots  
Capacity Tests: Sec. UV at National Board Testing Lab on July 9, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.151 in <sup>2</sup>	[D] 0.439 in	0.2 in	15-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.25 in	15-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.325 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.39 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.866 in <sup>2</sup>	[H] 1.05 in	0.485 in	15-6170 psi	Air	UV

2-3 NPS	3,4 NPS	1.431 in <sup>2</sup>	[J] 1.35 in	0.625 in	15-6170 psi	Air	UV
3 NPS	4 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.75 in	15-3705 psi	Air	UV
3-4 NPS	4,6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.92 in	15-3705 psi	Air	UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	1.05 in	15-3705 psi	Air	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	1.15 in	15-3705 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.38 in	15-3705 psi	Air	UV
6 NPS	8 NPS	12.566 in <sup>2</sup>	[Q] 4 in	1.84 in	15-1480 psi	Air	UV
6 NPS	8 NPS	17.721 in <sup>2</sup>	[R] 4.75 in	2.185 in	15-1480 psi	Air	UV
8 NPS	10 NPS	25.967 in <sup>2</sup>	[T] 5.75 in	2.625 in	15-1480 psi	Air	UV

<b>Mercury Manufacturing Company (MMC)</b>	<b>Nameplate Abbreviation: MMC</b>
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Wyandotte, MI 48192United States

### This Company Manufactures or Assembles:

Design Name:	MMC00346	NBCert #	78061
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	05/06/2026
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### Design Type

[Safety Relief Valve] MMC00346  
Capacity Tests: Sec. UV at National Board Testing Lab on January 15, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:2359.0 SCFM  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Bubble  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercury Manufacturing Company {MMC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.875 NPS	1.625 top NPS	0.357 in <sup>2</sup>	0.675 in	0.168 in	450 psi	Air	UV

Design Name:	MMC00521, MMC00522	NBCert #	78296
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	09/12/2029
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### Design Type

[Safety Relief Valve] MMC00521, MMC00522  
Capacity Tests: Sec. UV at National Board Testing Lab on July 10, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.638 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Bubble  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mercury Manufacturing Company {MMC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
24 mm		0.101 in²	0.36 in	0.09 in	1305-1960 psi	Air	UV
Design Name:		MMC-0270		NBCert #	78027		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		05/12/2029		
Design Type							
[Safety Relief Valve] MMC-0270 Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on November 29, 2005 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:558.00 SCFM Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Bubble Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Mercury Manufacturing Company {MMC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	Top NPS	0.113 in²	0.38 in	0.095 in	350-350 psi	Air	UV

Mersen USA ACE Corp. (COA)

Salem, VA 24153United States

This Company Manufactures or Assembles:

Design Name:		Series 3		NBCert #	90111		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UD		01/23/2027		
Design Type							
[Rupture Disk Device] Series 3 HolderDesignation: N/A Capacity Tests: Sec. UD at National Board Testing Lab on May 19, 1999 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl Certified Value: 0.600 Unitless Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Mersen USA ACE Corp. {COA}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.78 in²			50-400 psi		UD
1.5 NPS		1.77 in²			15-300 psi		UD
10 NPS		78.5 in²			15-100 psi		UD
12 NPS		113 in²			15-100 psi		UD
14 NPS		138 in²			15-75 psi		UD
16 NPS		183 in²			15-75 psi		UD

18 NPS	234 in <sup>2</sup>	15-50 psi	UD
2 NPS	3.14 in <sup>2</sup>	15-250 psi	UD
2.5 NPS	4.78 in <sup>2</sup>	15-250 psi	UD
20 NPS	291 in <sup>2</sup>	15-30 psi	UD
24 NPS	424.55 in <sup>2</sup>	15-25 psi	UD
3 NPS	7.07 in <sup>2</sup>	15-200 psi	UD
4 NPS	12.6 in <sup>2</sup>	15-150 psi	UD
6 NPS	28.3 in <sup>2</sup>	15-100 psi	UD
8 NPS	50 in <sup>2</sup>	15-100 psi	UD

Design Name:	Series 3 w. Dial Vac. Support	NBCert #	90144
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/23/2027

#### Design Type

[Rupture Disk Device] Series 3 w. Dial Vac. Support  
HolderDesignation: N/A  
Capacity Tests: Sec. UD at National Board Testing Lab on January 14, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 12.500 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Mersen USA ACE Corp. {COA}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.39 in <sup>2</sup>			15-50 psi		UD
1.5 NPS		0.845 in <sup>2</sup>			7-20 psi		UD
10 NPS		39.41 in <sup>2</sup>			1-20 psi		UD
12 NPS		57.52 in <sup>2</sup>			0.5-20 psi		UD
14 NPS		70.99 in <sup>2</sup>			0.5-20 psi		UD
16 NPS		105.71 in <sup>2</sup>			0.5-20 psi		UD
18 NPS		119.96 in <sup>2</sup>			0.5-20 psi		UD
2 NPS		1.37 in <sup>2</sup>			3-20 psi		UD
2.5 NPS		2.18 in <sup>2</sup>			3-20 psi		UD
20 NPS		156.17 in <sup>2</sup>			0.5-20 psi		UD
24 NPS		278.07 in <sup>2</sup>			0.5-20 psi		UD
3 NPS		3.54 in <sup>2</sup>			2-20 psi		UD
4 NPS		6.45 in <sup>2</sup>			2-20 psi		UD
6 NPS		12.28 in <sup>2</sup>			1-20 psi		UD
8 NPS		29.54 in <sup>2</sup>			1-20 psi		UD

Design Name:	Series 3 w/Bar Vac. Support	NBCert #	90122
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 08/07/2026



**Design Type**

[Rupture Disk Device] Series 3 w/Bar Vac. Support  
HolderDesignation: N/A  
Capacity Tests: Sec. UD at National Board Testing Lab on January 14, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 6.440 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Mersen USA ACE Corp. {COA}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.405 in <sup>2</sup>			15-50 psi		UD
1.5 NPS		1.02 in <sup>2</sup>			7-20 psi		UD
10 NPS		58.5 in <sup>2</sup>			1-20 psi		UD
12 NPS		89 in <sup>2</sup>			0.5-20 psi		UD
14 NPS		110 in <sup>2</sup>			0.5-20 psi		UD
16 NPS		151 in <sup>2</sup>			0.5-20 psi		UD
18 NPS		198 in <sup>2</sup>			0.5-20 psi		UD
2 NPS		2.14 in <sup>2</sup>			3-20 psi		UD
2.5 NPS		3.66 in <sup>2</sup>			3-20 psi		UD
20 NPS		251 in <sup>2</sup>			0.5-20 psi		UD
24 NPS		377 in <sup>2</sup>			0.5-20 psi		UD
3 NPS		5.57 in <sup>2</sup>			2-20 psi		UD
4 NPS		8.6 in <sup>2</sup>			2-20 psi		UD
6 NPS		19.3 in <sup>2</sup>			1-20 psi		UD
8 NPS		36.3 in <sup>2</sup>			1-20 psi		UD

Design Name: Series 6

NBCert # 90133

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

04/20/2030

**Design Type**

[Rupture Disk Device] Series 6  
HolderDesignation: N/A  
Capacity Tests: Sec. UD at National Board Testing Lab on January 14, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.500 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Mersen USA ACE Corp. {COA}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.78 in <sup>2</sup>			15-400 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			7-300 psi		UD
10 NPS		78.5 in <sup>2</sup>			1-100 psi		UD
12 NPS		113 in <sup>2</sup>			0.5-100 psi		UD
14 NPS		138 in <sup>2</sup>			0.5-75 psi		UD
16 NPS		183 in <sup>2</sup>			0.5-75 psi		UD

18 NPS	234 in <sup>2</sup>	0.5-50 psi	UD
2 NPS	3.14 in <sup>2</sup>	3-250 psi	UD
2.5 NPS	4.91 in <sup>2</sup>	3-250 psi	UD
20 NPS	291 in <sup>2</sup>	0.5-30 psi	UD
24 NPS	425 in <sup>2</sup>	0.5-25 psi	UD
3 NPS	7.07 in <sup>2</sup>	2-200 psi	UD
4 NPS	12.6 in <sup>2</sup>	2-150 psi	UD
6 NPS	28.3 in <sup>2</sup>	1-100 psi	UD
8 NPS	50.3 in <sup>2</sup>	1-100 psi	UD

## Midwest Valve Services, LLC (MID)

Nameplate Abbreviation: Midwest Valve Services

Minooka, IL 60447United States

### This Company Manufactures or Assembles:

Design Name:	243/249/443/449/546/843/849/943/5046/5049/8043/8049	NBCert #	01292
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/23/2029
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#### Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049  
Capacity Tests: Sec. UV at unknown lab on August 8, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name:	253/259/453/459/853/859/953/959/5059/8053/8059	NBCert #	01304
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.627 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name:	263/269/463/469/566/863/869/963/969/5066/5069	NBCert #	01315
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069  
Capacity Tests: Sec. UV at unknown lab on July 30, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV

3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)

Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.767 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2029

## Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.491 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 463/469/566/863/869/963/969/5066/5069 (Liquids) NBCert # 01348

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/14/2029

## Design Type

[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids)  
 Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.712 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name:	81, 81P, 83, 84	NBCert #	01089
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2029

#### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name:	81P (Liquids)	NBCert #	01102
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2029

**Design Type**

[Relief Valve] 81P (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.720 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: 93% of pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC NBCert # 15499

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

08/23/2029

**Design Type**

[Relief Valve] 900 Series (Liquid), 7700, SNC  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.661 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV

1.5 NPS      2.5 NPS      0.5674 in<sup>2</sup>      [#9] 0.85 in      0.274 in      15-5000 psi      Water      UV, V

Design Name:    HL, HSL		NBCert #      15589
Manufacturer/Assembler	Designators	Expiration Date
Assembler	V	08/09/2030
Design Type		
[Safety Valve] HL, HSL Capacity Tests: Sec. UV, V at Crosby Valve, LLC on November 3, 1999 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.869 Unitless Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	1.5 NPS	0.339 in <sup>2</sup>	[F] 0.657 in	0.164 in	15-725 psi	Steam	UV, V
1.25-2 NPS	1.5 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.21 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.868 in <sup>2</sup>	[H] 1.051 in	0.263 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.327 in <sup>2</sup>	[J] 1.3 in	0.325 in	15-725 psi	Steam	UV, V
2-3 NPS	3-4 NPS	2.046 in <sup>2</sup>	[K] 1.614 in	0.404 in	15-725 psi	Steam	UV, V
2.5-4 NPS	4-6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-725 psi	Steam	UV, V
3 NPS	4-6 NPS	3.955 in <sup>2</sup>	[M] 2.244 in	0.561 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	4.831 in <sup>2</sup>	[N] 2.48 in	0.62 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	7.031 in <sup>2</sup>	[P] 2.992 in	0.748 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[QQ] 3.75 in	0.937 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	12.174 in <sup>2</sup>	[Q] 3.937 in	0.984 in	15-725 psi	Steam	UV, V

Design Name:    JLT-JOS/JLT-JBS/JLT-JDS (Liquids)		NBCert #      15095
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	08/23/2029
Design Type		
[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids) Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.656 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V



1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/23/2029

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

## Midwest Valve Services, LLC (RSO)

Des Moines, IA 50313United States

### This Company Manufactures or Assembles:

Design Name:	253/259/453/459/853/859/953/959/5059/8053/8059	NBCert #	01304
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	08/27/2030
Design Type			
[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059 Capacity Tests: Sec. UV at unknown lab on July 31, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.627 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Curtain Area Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV

4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/27/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.767 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 01/08/2031

#### Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.491 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV

1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 81, 81P, 83, 84

NBCert #

01089

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/27/2030

#### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV

2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV
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Design Name: 900 Series (Liquid), 7700, SNC				NBCert # 15499			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		07/30/2030		
Design Type							
[Relief Valve] 900 Series (Liquid), 7700, SNC Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.661 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in²	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in²	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in²	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in²	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in²	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in²	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in²	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in²	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in²	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in²	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in²	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in²	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in²	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC				NBCert # 15411			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		08/27/2030		
Design Type							
[Safety Relief Valve] 900 Series, 7700, SNC Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in²	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in²	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV

0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/27/2030

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V

3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/27/2030

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/30/2030

### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV



6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

<b>Mobile Valve - Tracy (MVT)</b>	<b>Nameplate Abbreviation: MVT</b>
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Tracy, NB E5L 2W1Canada

**This Company Manufactures or Assembles:**

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/12/2028
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<b>Design Type</b>
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[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V

1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/12/2028

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV

3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name:	19000 Series	NBCert #	18706
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/12/2028

Design Type
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[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV

0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/12/2028

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV

1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

## Mobile Valve, A Division of Source Atlantic (MVR)

Nameplate Abbreviation: MVR / Mobile Valve - NS

Mt. Uniacke, NS B0N 1Z0Canada

### This Company Manufactures or Assembles:

Design Name: 1541, 1543, 1541-3, 1543-3 NBCert # 18032

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 08/17/2026

#### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V

1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 07/10/2026

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

## Monarch Valve Corp (MON)

Westfield, MA 01085United States

### This Company Manufactures or Assembles:

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	03/22/2030	

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	19000 Series, Liquid	NBCert #	18717
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	05/28/2030	

**Design Type**

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/22/2030

**Design Type**

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM-D NBCert # 19088

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/17/2030



### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E NBCert # 19099

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV

07/17/2030

### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV

08/23/2030

### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	1982 LS, 820000LS	NBCert #	18380
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/28/2030

### Design Type

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

### Mueller Refrigeration, LLC (MBC)

Hartsville, TN 37074United States

#### This Company Manufactures or Assembles:

Design Name:	3000A (3000, 3001, 3001X2, 3002, 3012, 3014, 3015, 3212, 3214, 3215, 3217, 5980X1, 3000C, 3001C, 3002C, 3012C, 3014C, 3015C, 3212C, 3214C, 3215C, 3000C-4FFL)	NBCert #	41173
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/22/2029

### Design Type

[Safety Relief Valve] 3000A (3000, 3001, 3001X2, 3002, 3012, 3014, 3015, 3212, 3214, 3215, 3217, 5980X1, 3000C, 3001C, 3002C, 3012C, 3014C, 3015C, 3212C, 3214C, 3215C, 3000C-4FFL)  
Capacity Tests: Sec. UV at National Board Testing Lab on November 10, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.379 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mueller Refrigeration, LLC {MBC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.5625 NPS	3/8, 1/2, Top NPS	0.028 in²	0.187 in		150-800 psi	Air	UV
Design Name:	3020A (3016, 3020, 3020X2, 3216, 3220, 5731AX9, 5733, 5733X2, 3016C, 3020C, 3216C, 3220C)			NBCert #	41184		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		03/22/2029		
Design Type							
[Safety Relief Valve] 3020A (3016, 3020, 3020X2, 3216, 3220, 5731AX9, 5733, 5733X2, 3016C, 3020C, 3216C, 3220C) Capacity Tests: Sec. UV at National Board Testing Lab on November 10, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.727 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mueller Refrigeration, LLC {MBC}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-1.125 NPS		0.062 in²	0.281 in		150-800 psi	Air	UV
Design Name:	3030A (3030, 3030C, 3031, 3031C, 3031X1, 3045, 3045C, 3045TR, 3045X1)			NBCert #	41195		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		03/22/2029		
Design Type							
[Safety Relief Valve] 3030A (3030, 3030C, 3031, 3031C, 3031X1, 3045, 3045C, 3045TR, 3045X1) Capacity Tests: Sec. UV at National Board Testing Lab on November 10, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.698 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mueller Refrigeration, LLC {MBC}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1/2, 3/4, Top NPS	0.15 in²	0.437 in		150-700 psi	Air	UV
Design Name:	3060A (3060, 3060FL, 3060X1, 3060X7, 3061X1, 3070, 3075)			NBCert #	41207		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		03/22/2029		
Design Type							
[Safety Relief Valve] 3060A (3060, 3060FL, 3060X1, 3060X7, 3061X1, 3070, 3075) Capacity Tests: Sec. UV at National Board Testing Lab on November 10, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 4.093 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mueller Refrigeration, LLC {MBC}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS	1, 1.25 NPS	0.405 in²	0.718 in		150-450 psi	Air	UV
Design Name: 3080A (3075TR, 5730)NBCert # 41162							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			03/22/2029	
Design Type							
[Safety Relief Valve] 3080A (3075TR, 5730) Capacity Tests: Sec. UV at National Board Testing Lab on November 10, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.637 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mueller Refrigeration, LLC {MBC}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.625 NPS		0.196 in²	0.5 in		300-450 psi	Air	UV
Design Name: 3090NBCert # 41218							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			02/26/2030	
Design Type							
[Safety Relief Valve] 3090 Capacity Tests: Sec. UV at National Board Testing Lab on January 22, 2018 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:774.10 SCFM Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Mueller Refrigeration, LLC {MBC}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.875 in	1.5 NPS	1.227 in²	1.25 in	0.389 in	50-50 psi	Air	UV
Design Name: A15502, A15503, A15512, A15513, A17430, A18774, A18933, A18934, A-19108, B33746, B33752, B33753, B33754, B33755 & B34425, B35616NBCert # 41016							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			02/13/2029	

Design Type

[Safety Relief Valve] A15502, A15503, A15512, A15513, A17430, A18774, A18933, A18934, A-19108, B33746, B33752, B33753, B33754, B33755 & B34425, B35616  
Capacity Tests: Sec. UV at unknown lab on January 3, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.438 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mueller Refrigeration, LLC {MBC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
		0.028 in²	0.19 in		150-700 psi	Air	UV
0.125-0.375 NPS	3/8, 1/2 NPS	0.0284 in²	0.19 in		150-700 psi	Air	UV

Design Name: A15504, A15514, A15515, B35413, A18736, A18737 A18762,A18783, A18784, NBCert # 41027  
A18935, A19105, A19099

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/03/2027

Design Type

[Safety Relief Valve] A15504, A15514, A15515, B35413, A18736, A18737 A18762,A18783, A18784, A18935, A19105, A19099  
Capacity Tests: Sec. UV at unknown lab on January 3, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.965 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Designed by: Mueller Refrigeration, LLC {MBC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.875 NPS	1/2, 5/8, 3/4 NPS	0.0616 in²	0.28 in		150-700 psi	Air	UV

Design Name: A-15506 & B-34444 NBCert # 41049

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/22/2026

Design Type

[Safety Relief Valve] A-15506 & B-34444  
Capacity Tests: Sec. UV at Phillips Petroleum on May 22, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.124 lb/min/psia  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Designed by: Mueller Refrigeration, LLC {MBC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-0.875 NPS		0.1134 in²	0.38 in		150-450 psi	Air	UV

Design Name:	A-17834, B-34580, A-18387, A-18473	NBCert #	41061
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	03/31/2026

#### Design Type

[Safety Relief Valve] A-17834, B-34580, A-18387, A-18473  
Capacity Tests: Sec. UV at National Board Testing Lab on October 29, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 4.400 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Bubble  
Blowdown Characteristics: Fixed  
Designed by: Mueller Refrigeration, LLC {MBC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.625 NPS	1, 1.25 NPS	0.4185 in <sup>2</sup>	0.73 in	0.183 in	150-450 psi	Air	UV

Design Name:	A-17840, A-18735, & B-34519	NBCert #	41050
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/17/2025

#### Design Type

[Safety Relief Valve] A-17840, A-18735, & B-34519  
Capacity Tests: Sec. UV at National Board Testing Lab on July 8, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.690 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Bubble  
Blowdown Characteristics: Fixed  
Designed by: Mueller Refrigeration, LLC {MBC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.625 NPS	1 NPS	0.196 in <sup>2</sup>	0.5 in		150-450 psi	Air	UV

Design Name:	A-17970, A-18443	NBCert #	41072
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/03/2027

#### Design Type

[Safety Relief Valve] A-17970, A-18443  
Capacity Tests: Sec. UV at National Board Testing Lab on October 28, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.390 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Bubble  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Mueller Refrigeration, LLC {MBC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
	1 NPS	0.093 in <sup>2</sup>	0.375 in		150-450 psi	Air	UV

Design Name: A-18356, A-18357, A-18358, A-18540		NBCert #	41083
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	03/21/2030
Design Type			
[Safety Relief Valve] A-18356, A-18357, A-18358, A-18540 Capacity Tests: Sec. UV at National Board Testing Lab on August 7, 2007 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.870 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mueller Refrigeration, LLC {MBC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.875 NPS	.5, .75 NPS	0.151 in <sup>2</sup>	0.438 in	0.109 in	150-450 psi	Air	UV

Design Name: A-18422		NBCert #	41106
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/09/2026
Design Type			
[Safety Relief Valve] A-18422 Capacity Tests: Sec. UV at National Board Testing Lab on March 16, 2009 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.730 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mueller Refrigeration, LLC {MBC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.1134 in <sup>2</sup>	0.38 in		600-700 psi	Air	UV

Design Name: A-18424 (Teflon seat)		NBCert #	41128
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	12/17/2025
Design Type			
[Safety Relief Valve] A-18424 (Teflon seat) Capacity Tests: Sec. UV at National Board Testing Lab on January 20, 2009 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.906 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mueller Refrigeration, LLC {MBC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.196 in <sup>2</sup>	0.5 in		150-450 psi	Air	UV

Design Name:		A-18425, A-18444 (Teflon seat)		NBCert #	41117		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			12/17/2025	
Design Type							
[Safety Relief Valve] A-18425, A-18444 (Teflon seat) Capacity Tests: Sec. UV at National Board Testing Lab on October 16, 2008 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 4.330 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Mueller Refrigeration, LLC {MBC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS	1.25 NPS	0.4185 in²	0.73 in		150-450 psi	Air	UV

## NAKAKITA SEISAKUSHO CO.,LTD. (NKK)

Daito, Osaka, 574-8691 Japan

### This Company Manufactures or Assembles:

Design Name: NS 200JMR			NBCert # 42073				
Manufacturer/Assembler		Designators		Expiration Date			
Manufacturer		UV		04/18/2030			
Design Type							
[Relief Valve] NS 200JMR Capacity Tests: Sec. UV at National Board Testing Lab on May 8, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.603 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: NAKAKITA SEISAKUSHO CO.,LTD. {NKK}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.1217 in²	0.3149 in	0.079 in	15-3000 psi	Water	UV
0.75-1 NPS	.75 - 1 NPS	0.1217 in²	0.3937 in	0.098 in	15-2000 psi	Water	UV

Design Name: NS255			NBCert # 42039	
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UV		06/17/2027



## Design Type

[Safety Relief Valve] NS255  
 Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on April 17, 1978  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: NAKAKITA SEISAKUSHO CO.,LTD. {NKK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	1 -2.5 NPS	0.133 in <sup>2</sup>	[D] 0.413 in	0.125 in	15-2900 psi	Steam	UV
0.75-1.5 NPS	1 -2.5 NPS	0.133 in <sup>2</sup>	[D] 0.413 in	0.125 in	15-3500 psi	Air	UV
0.75-1.5 NPS	1 - 2.5 NPS	0.221 in <sup>2</sup>	[E] 0.531 in	0.161 in	15-2900 psi	Steam	UV
0.75-1.5 NPS	1 - 2.5 NPS	0.221 in <sup>2</sup>	[E] 0.531 in	0.161 in	15-3500 psi	Air	UV
1-1.5 NPS	1.5 - 2.5 NPS	0.351 in <sup>2</sup>	[F] 0.669 in	0.2 in	15-2900 psi	Steam	UV
1-1.5 NPS	1.5 - 2.5 NPS	0.351 in <sup>2</sup>	[F] 0.669 in	0.2 in	15-3500 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.259 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.259 in	15-3500 psi	Air	UV
1.5-2 NPS	3 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.326 in	15-2500 psi	Air	UV
1.5-2 NPS	3 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.326 in	15-2500 psi	Steam	UV
2-3 NPS	3 , 4 NPS	1.448 in <sup>2</sup>	[J] 1.358 in	0.409 in	15-2500 psi	Air	UV
2-3 NPS	3 , 4 NPS	1.448 in <sup>2</sup>	[J] 1.358 in	0.409 in	15-2500 psi	Steam	UV
3 NPS	4, 6 NPS	2.094 in <sup>2</sup>	[K] 1.633 in	0.452 in	15-2000 psi	Air	UV
3 NPS	4, 6 NPS	2.094 in <sup>2</sup>	[K] 1.633 in	0.452 in	15-2000 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.226 in <sup>2</sup>	[L] 2.027 in	0.559 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.226 in <sup>2</sup>	[L] 2.027 in	0.559 in	15-1500 psi	Steam	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.629 in	15-1000 psi	Air	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.629 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.908 in <sup>2</sup>	[N] 2.5 in	0.688 in	15-1000 psi	Air	UV
4 NPS	6 NPS	4.908 in <sup>2</sup>	[N] 2.5 in	0.688 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.834 in	15-1000 psi	Air	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.834 in	15-1000 psi	Steam	UV
6 NPS	8 NPS	12.541 in <sup>2</sup>	[Q] 3.996 in	1.102 in	15-600 psi	Air	UV
6 NPS	8 NPS	12.541 in <sup>2</sup>	[Q] 3.996 in	1.102 in	15-600 psi	Steam	UV
6 NPS	8, 10 NPS	18.118 in <sup>2</sup>	[R] 4.803 in	1.322 in	15-400 psi	Air	UV
6 NPS	8, 10 NPS	18.118 in <sup>2</sup>	[R] 4.803 in	1.322 in	15-400 psi	Steam	UV
8 NPS	10 NPS	29.435 in <sup>2</sup>	[T] 6.122 in	1.685 in	15-300 psi	Air	UV
8 NPS	10 NPS	29.435 in <sup>2</sup>	[T] 6.122 in	1.685 in	15-300 psi	Steam	UV
10 NPS	12, 14 NPS	47.722 in <sup>2</sup>	[V] 7.795 in	2.145 in	15-300 psi	Air	UV
10 NPS	12, 14 NPS	47.722 in <sup>2</sup>	[V] 7.795 in	2.145 in	15-300 psi	Steam	UV
12 NPS	14, 16 NPS	68.368 in <sup>2</sup>	[W] 9.33 in	2.566 in	15-300 psi	Air	UV
12 NPS	14, 16 NPS	68.368 in <sup>2</sup>	[W] 9.33 in	2.566 in	15-300 psi	Steam	UV

Design Name:	NS255E (Liquids)	NBCert #	42040
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	06/17/2027
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#### Design Type

[Relief Valve] NS255E (Liquids)  
 Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on November 3, 1986  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.670 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: NAKAKITA SEISAKUSHO CO.,LTD. {NKK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	.75 - 2.5 NPS	0.11 in <sup>2</sup>	0.375 in	0.112 in	15-5000 psi	Water	UV
0.75-1.5 NPS	.75 - 2.5 NPS	0.133 in <sup>2</sup>	0.413 in	0.125 in	15-5000 psi	Water	UV
0.75-1.5 NPS	.75 - 2.5 NPS	0.196 in <sup>2</sup>	0.5 in	0.15 in	15-5000 psi	Water	UV
0.75-1.5 NPS	0.75 - 2.5 NPS	0.221 in <sup>2</sup>	0.531 in	0.161 in	15-5000 psi	Water	UV
1-1.5 NPS	1.5 - 2.5 NPS	0.307 in <sup>2</sup>	0.625 in	0.19 in	15-5000 psi	Water	UV
1-1.5 NPS	1.5 - 2.5 NPS	0.351 in <sup>2</sup>	0.669 in	0.2 in	15-5000 psi	Water	UV
1.5-2 NPS	2 - 3 NPS	0.503 in <sup>2</sup>	0.8 in	0.24 in	15-3500 psi	Water	UV
1.5-2 NPS	2 - 3 NPS	0.589 in <sup>2</sup>	0.866 in	0.259 in	15-3500 psi	Water	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	1 in	0.3 in	15-2500 psi	Water	UV
1.5-2 NPS	3 NPS	0.919 in <sup>2</sup>	1.082 in	0.326 in	15-2500 psi	Water	UV
2-3 NPS	3 , 4 NPS	1.287 in <sup>2</sup>	1.281 in	0.384 in	15-2500 psi	Water	UV
2-3 NPS	3 , 4 NPS	1.448 in <sup>2</sup>	1.358 in	0.409 in	15-2500 psi	Water	UV
3 NPS	4 , 6 NPS	1.838 in <sup>2</sup>	1.53 in	0.421 in	15-2000 psi	Water	UV
3 NPS	4, 6 NPS	2.094 in <sup>2</sup>	1.633 in	0.452 in	15-2000 psi	Water	UV
3-4 NPS	4 , 6 NPS	2.853 in <sup>2</sup>	1.906 in	0.524 in	15-1500 psi	Water	UV
3-4 NPS	4, 6 NPS	3.226 in <sup>2</sup>	2.027 in	0.559 in	15-1500 psi	Water	UV
4 NPS	6 NPS	3.6 in <sup>2</sup>	2.141 in	0.589 in	15-1000 psi	Water	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	2.283 in	0.629 in	15-1000 psi	Water	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	2.351 in	0.646 in	15-1000 psi	Water	UV
4 NPS	6 NPS	4.908 in <sup>2</sup>	2.5 in	0.688 in	15-1000 psi	Water	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	2.85 in	0.784 in	15-1000 psi	Water	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	3.031 in	0.834 in	15-1000 psi	Water	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	3.75 in	1.031 in	15-600 psi	Water	UV
6 NPS	8 NPS	12.541 in <sup>2</sup>	3.996 in	1.102 in	15-600 psi	Water	UV
6 NPS	8, 10 NPS	16 in <sup>2</sup>	4.514 in	1.241 in	15-400 psi	Water	UV
6 NPS	8, 10 NPS	18.118 in <sup>2</sup>	4.803 in	1.322 in	15-400 psi	Water	UV
8 NPS	10 NPS	26 in <sup>2</sup>	5.75 in	1.582 in	15-300 psi	Water	UV
8 NPS	10 NPS	29.435 in <sup>2</sup>	6.122 in	1.685 in	15-300 psi	Water	UV
10 NPS	12, 14 NPS	44.734 in <sup>2</sup>	7.547 in	2.075 in	15-300 psi	Water	UV

10 NPS	12, 14 NPS	47.722 in <sup>2</sup>	7.795 in	2.145 in	15-300 psi	Water	UV
12 NPS	14, 16 NPS	64.397 in <sup>2</sup>	9.055 in	2.49 in	15-300 psi	Water	UV
12 NPS	14, 16 NPS	68.368 in <sup>2</sup>	9.33 in	2.566 in	15-300 psi	Water	UV

Design Name:	NS256	NBCert #	42062
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 04/03/2027

Design Type
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[Pilot Operated Pressure Relief Valve] NS256  
Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on June 21, 1979  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: NAKAKITA SEISAKUSHO CO.,LTD. {NKK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 2.5 NPS	0.112 in <sup>2</sup>	0.378 in	0.114 in	50-2300 psi	Water	UV
1-1.5 NPS	2, 2.5 NPS	0.196 in <sup>2</sup>	0.5 in	0.154 in	50-2300 psi	Air	UV
1.5 NPS	2, 2.5 NPS	0.307 in <sup>2</sup>	0.626 in	0.193 in	50-2300 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.506 in <sup>2</sup>	0.8031 in	0.24 in	50-2300 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	1 in	0.303 in	50-2300 psi	Air	UV
2-3 NPS	3, 4 NPS	1.293 in <sup>2</sup>	1.2835 in	0.386 in	50-2300 psi	Air	UV
3 NPS	4, 6 NPS	1.842 in <sup>2</sup>	1.5315 in	0.421 in	50-2000 psi	Air	UV
3-4 NPS	4, 6 NPS	2.863 in <sup>2</sup>	1.9094 in	0.524 in	50-2000 psi	Air	UV
4 NPS	6 NPS	3.602 in <sup>2</sup>	2.1417 in	0.591 in	50-2000 psi	Air	UV
4 NPS	6 NPS	4.353 in <sup>2</sup>	2.3543 in	0.646 in	50-2000 psi	Air	UV
4 NPS	6 NPS	6.381 in <sup>2</sup>	2.8504 in	0.783 in	50-1500 psi	Air	UV
6 NPS	8 NPS	11.056 in <sup>2</sup>	3.752 in	1.031 in	50-1500 psi	Air	UV
6 NPS	8, 10 NPS	16.015 in <sup>2</sup>	4.5157 in	1.4 in	50-1100 psi	Air	UV
8 NPS	10, 12 NPS	26.02 in <sup>2</sup>	5.7559 in	1.583 in	50-1000 psi	Air	UV

Neway Valve Group - Wujiang Dongwu Machinery Co., Ltd (DWM)	Nameplate Abbreviation: DWMC
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Suzhou City, Jiangsu Province, People's Republic of China

### This Company Manufactures or Assembles:

Design Name:	WFO-L, WFB-L	NBCert #	03429
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 10/30/2029

## Design Type

[Safety Relief Valve] WFO-L, WFB-L  
 Capacity Tests: Sec. UV at National Board Testing Lab on February 1, 2023  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.632 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Neway Valve Group - Wujiang Dongwu Machinery Co., Ltd {DWM}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	80.118 mm <sup>2</sup>	[D] 10.1 mm	3.4 mm	30-6000 psi	Water	UV
1-1.5 NPS	2, 3 NPS	143.139 mm <sup>2</sup>	[E] 13.5 mm	4.5 mm	30-6000 psi	Water	UV
1.5 NPS	2, 3 NPS	224.318 mm <sup>2</sup>	[F] 16.9 mm	5.6 mm	30-5000 psi	Water	UV
1.5-2 NPS	3 NPS	366.435 mm <sup>2</sup>	[G] 21.6 mm	7.2 mm	30-5000 psi	Water	UV
1.5-2 NPS	3 NPS	572.555 mm <sup>2</sup>	[H] 27 mm	9 mm	30-6000 psi	Water	UV
2-3 NPS	3, 4 NPS	934.82 mm <sup>2</sup>	[J] 34.5 mm	11.5 mm	30-3000 psi	Water	UV
3 NPS	4, 6 NPS	1339.65 mm <sup>2</sup>	[K] 41.3 mm	13.8 mm	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	2074.99 mm <sup>2</sup>	[L] 51.4 mm	17.1 mm	15-3000 psi	Water	UV
4 NPS	6 NPS	2623.89 mm <sup>2</sup>	[M] 57.8 mm	19.3 mm	15-1100 psi	Water	UV
4 NPS	6 NPS	3156.95 mm <sup>2</sup>	[N] 63.4 mm	21.1 mm	15-1013 psi	Water	UV
4 NPS	6 NPS	4644.54 mm <sup>2</sup>	[P] 76.9 mm	25.6 mm	15-1013 psi	Water	UV
6 NPS	8 NPS	8043.61 mm <sup>2</sup>	[Q] 101.2 mm	33.7 mm	15-720 psi	Water	UV
6 NPS	8, 10 NPS	11651.6 mm <sup>2</sup>	[R] 121.8 mm	40.6 mm	15-300 psi	Water	UV
8 NPS	10 NPS	18942.3 mm <sup>2</sup>	[T] 155.3 mm	51.8 mm	15-300 psi	Water	UV
10 NPS	14 NPS	31415.9 mm <sup>2</sup>	[V] 200 mm	66.7 mm	15-300 psi	Water	UV
12 NPS	16 NPS	45238.9 mm <sup>2</sup>	[W] 240 mm	80 mm	15-300 psi	Water	UV
14 NPS	18 NPS	61575.2 mm <sup>2</sup>	[Y] 280 mm	93.3 mm	15-300 psi	Water	UV
16 NPS	18 NPS	70685.8 mm <sup>2</sup>	[Z] 300 mm	100 mm	15-300 psi	Water	UV
18 NPS	24 NPS	101788 mm <sup>2</sup>	[AA] 360 mm	120 mm	15-300 psi	Water	UV
20 NPS	24 NPS	125664 mm <sup>2</sup>	[BB] 400 mm	133.3 mm	15-300 psi	Water	UV

## Ningbo Dynamic Flow Technology Co., Ltd (NDF)

Nameplate Abbreviation: DNK

Ningbo City, 315800 People's Republic of China

### This Company Manufactures or Assembles:

Design Name: BPF			NBCert # 02507	
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UD		01/31/2029

## Design Type

[Buckling Pin Non-reclosing Device] BPF  
 Capacity Tests: Sec. UD at National Board Testing Lab on May 27, 2022  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value:44.710 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Buckling Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Ningbo Dynamic Flow Technology Co., Ltd {NDF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS	10 NPS	44.9 in²			1-285 psi		UD
12 NPS	12 NPS	63.6 in²			1-285 psi		UD
14 NPS	14 NPS	85.58 in²			1-285 psi		UD
16 NPS	16 NPS	113.46 in²			1-285 psi		UD
18 NPS	18 NPS	155.86 in²			1-285 psi		UD
2 NPS	2 NPS	1.53 in²			10-285 psi		UD
2.5 NPS	2.5 NPS	2.02 in²			10-285 psi		UD
20 NPS	20 NPS	208.99 in²			1-285 psi		UD
22 NPS	22 NPS	254.83 in²			1-285 psi		UD
24 NPS	24 NPS	305.23 in²			1-285 psi		UD
26 NPS	26 NPS	343.71 in²			1-285 psi		UD
28 NPS	28 NPS	415.98 in²			1-285 psi		UD
3 NPS	3 NPS	3.9 in²			10-285 psi		UD
30 NPS	30 NPS	498.39 in²			1-285 psi		UD
32 NPS	32 NPS	592.17 in²			1-285 psi		UD
34 NPS	34 NPS	655.44 in²			1-285 psi		UD
36 NPS	36 NPS	763.12 in²			1-285 psi		UD
38 NPS	38 NPS	833.68 in²			1-285 psi		UD
4 NPS	4 NPS	6.35 in²			10-285 psi		UD
40 NPS	40 NPS	930.99 in²			1-285 psi		UD
42 NPS	42 NPS	1033.68 in²			1-285 psi		UD
44 NPS	44 NPS	1142.54 in²			1-285 psi		UD
46 NPS	46 NPS	1255.97 in²			1-285 psi		UD
48 NPS	48 NPS	1374.77 in²			1-285 psi		UD
50 NPS	50 NPS	1498.93 in²			1-285 psi		UD
52 NPS	52 NPS	1628.47 in²			1-285 psi		UD
54 NPS	54 NPS	1803.59 in²			1-720 psi		UD
56 NPS	56 NPS	1954.2 in²			1-720 psi		UD
58 NPS	58 NPS	2114.49 in²			1-720 psi		UD
6 NPS	6 NPS	16.8 in²			1-285 psi		UD
60 NPS	60 NPS	2282.77 in²			1-720 psi		UD
64 NPS	64 NPS	2663.16 in²			1-720 psi		UD
68 NPS	68 NPS	3027.43 in²			1-720 psi		UD
72 NPS	72 NPS	3392.79 in²			1-720 psi		UD

76 NPS	76 NPS	3784.87 in²	1-720 psi	UD
8 NPS	8 NPS	29.28 in²	1-285 psi	UD
80 NPS	80 NPS	4212.27 in²	1-720 psi	UD

Nirmal Industrial Controls Pvt. Ltd. (NIC)

Nameplate Abbreviation: NIRMAL

Thane, Maharashtra, 421601India

This Company Manufactures or Assembles:

Design Name:    Securamax SR-07 Series		NBCert #	00819
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	01/26/2029
Design Type			
[Safety Relief Valve] Securamax SR-07 Series Capacity Tests: Sec. UV at National Board Testing Lab on March 7, 2016 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.870 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Nirmal Industrial Controls Pvt. Ltd. {NIC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.124 in²	[D] 0.398 in	0.134 in	15-3697 psi	Air	UV
1-1.5 NPS	2 NPS	0.224 in²	[E] 0.531 in	0.134 in	15-3697 psi	Air	UV
1.5 NPS	2, 3 NPS	0.352 in²	[F] 0.669 in	0.17 in	15-3697 psi	Air	UV
1.5-2 NPS	3 NPS	0.567 in²	[G] 0.85 in	0.213 in	15-3697 psi	Air	UV
1.5-2 NPS	3 NPS	0.887 in²	[H] 1.063 in	0.268 in	15-2755 psi	Air	UV
2-3 NPS	3, 4 NPS	1.457 in²	[J] 1.362 in	0.342 in	15-2697 psi	Air	UV
3 NPS	4, 6 NPS	2.096 in²	[K] 1.634 in	0.394 in	15-2218 psi	Air	UV
3-4 NPS	4, 6 NPS	3.228 in²	[L] 2.028 in	0.55 in	15-1493 psi	Air	UV
4 NPS	6 NPS	3.817 in²	[M] 2.205 in	0.55 in	15-1102 psi	Air	UV
4 NPS	6 NPS	5.143 in²	[N] 2.559 in	0.64 in	15-1000 psi	Air	UV
4 NPS	6 NPS	7.027 in²	[P] 2.992 in	0.76 in	15-1000 psi	Air	UV
6 NPS	8 NPS	12.915 in²	[Q] 4.055 in	1.02 in	15-609 psi	Air	UV
6 NPS	8, 10 NPS	15.882 in²	[R] 4.488 in	1.2 in	15-304 psi	Air	UV
8 NPS	10 NPS	27.92 in²	[T] 5.965 in	1.54 in	15-304 psi	Air	UV

North American Machine Works, Inc. (ANA)

Nameplate Abbreviation: NAMW

Folcroft, PA 19032United States

This Company Manufactures or Assembles:

Design Name: 2600 & 2600S	NBCert # 57057
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/12/2025
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#### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam) NBCert # 57260

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/12/2025

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV



4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids) NBCert # 57068

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/12/2025

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V

12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V
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Design Name: 2700, 2700S, 3700, 3700S		NBCert # 57237
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/12/2025
Design Type		
<div>[Safety Relief Valve] 2700, 2700S, 3700, 3700S</div> <div>Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994</div> <div>Method of Establishing Relieving Capacity: Flow Capacity, K</div> <div>Certified Value: 0.878 Unitless</div> <div>Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam</div> <div>Set Pressure Definition: Pop</div> <div>Blowdown Characteristics: Fixed</div> <div>Flow Area Configuration: Nozzle/Full Lift</div> <div>Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids)			NBCert # 57248	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		08/12/2025

**Design Type**

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 4200 / 4400

NBCert # 57282

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

V

09/26/2025

**Design Type**

[Safety Valve] 4200 / 4400  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.872 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

# North American Safety Valve Industries, Inc. (NAS)

Nameplate Abbreviation: NASVI

North Kansas City, MO 64116United States

## This Company Manufactures or Assembles:

Design Name: 19 Series			NBCert # 11282				
Manufacturer/Assembler		Designators		Expiration Date			
Assembler		UV, V		08/22/2029			
Design Type							
[Safety Valve] 19 Series Capacity Tests: Sec. UV, V at unknown lab on March 27, 1980 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.826 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.129 in²	[D] 0.406 in	0.101 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.129 in²	[D] 0.406 in	0.101 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.23 in²	[E] 0.541 in	0.135 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.23 in²	[E] 0.541 in	0.135 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.359 in²	[F] 0.676 in	0.169 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.359 in²	[F] 0.676 in	0.169 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.589 in²	[G] 0.866 in	0.217 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.589 in²	[G] 0.866 in	0.217 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.919 in²	[H] 1.082 in	0.271 in	15-300 psi	Air	UV
1.5-2 NPS	2 NPS	0.919 in²	[H] 1.082 in	0.271 in	15-300 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.509 in²	[J] 1.386 in	0.347 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.509 in²	[J] 1.386 in	0.347 in	15-300 psi	Steam	UV, V

Design Name: Kunkle 1, 2		NBCert # 36223	
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	07/22/2026
Design Type			
[Safety Valve] Kunkle 1, 2 Capacity Tests: Sec. UV at unknown lab on July 1, 1953 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.823 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, Top NPS	0.049 in <sup>2</sup>	0.75 in	0.029 in	15-250 psi	Air	UV
0.5-0.75 NPS	.75, Top NPS	0.049 in <sup>2</sup>	0.75 in	0.029 in	15-250 psi	Steam	UV
1 NPS	1, Top NPS	0.0844 in <sup>2</sup>	1 in	0.038 in	15-250 psi	Air	UV
1 NPS	1, Top NPS	0.0844 in <sup>2</sup>	1 in	0.038 in	15-250 psi	Steam	UV

Design Name:	Kunkle 189, 363, 389	NBCert #	36043
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/22/2026

#### Design Type

[Safety Relief Valve] Kunkle 189, 363, 389  
Capacity Tests: Sec. UV at unknown lab on April 15, 1958  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.874 Unitless  
Media - ; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.034 in <sup>2</sup>	0.5 in	0.031 in	50-2500 psi	Air	UV

Design Name:	Kunkle 264, 265, 266 & 267	NBCert #	36267
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/22/2029

#### Design Type

[Safety Relief Valve] Kunkle 264, 265, 266 & 267  
Capacity Tests: Sec. UV at unknown lab on July 20, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.766 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-2000 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-3300 psi	Air	UV

Design Name:	Kunkle 30	NBCert #	36335
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/22/2026

**Design Type**

[Safety Relief Valve] Kunkle 30  
Capacity Tests: Sec. UV at unknown lab on December 18, 1989  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.186 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS			0.157 in	0.1 in	60-4000 psi	Air	UV

Design Name:	Kunkle 300,600	NBCert #	36076
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**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

07/22/2026

**Design Type**

[Safety Valve] Kunkle 300,600  
Capacity Tests: Sec. UV, V at unknown lab on February 10, 1961  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Air	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	V
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Air	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	V
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Air	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	V

3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	UV

Design Name: Kunkle 330. 330S, 333S NBCert # 36087

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/22/2026

#### Design Type

[Safety Relief Valve] Kunkle 330. 330S, 333S  
Capacity Tests: Sec. UV at unknown lab on June 14, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.026 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS			0.047 in	0.05 in	1000-7500 psi	Air	UV

Design Name: Kunkle 337 NBCert # 36278

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/23/2026

#### Design Type

[Safety Relief Valve] Kunkle 337  
Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name:	Kunkle 541-A/542-A (.295 orifice)	NBCert #	36469
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/22/2026

#### Design Type

[Safety Relief Valve] Kunkle 541-A/542-A (.295 orifice)  
Capacity Tests: Sec. UV at unknown lab on December 14, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.068 in <sup>2</sup>	0.295 in	0.126 in	15-200 psi	Air	UV

Design Name:	Kunkle 541-C/542-C/548-C (.422 Orifice)	NBCert #	36302
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/22/2026

#### Design Type

[Safety Relief Valve] Kunkle 541-C/542-C/548-C (.422 Orifice)  
Capacity Tests: Sec. UV at unknown lab on May 20, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	Side NPS	0.14 in <sup>2</sup>	0.422 in	0.2 in	15-400 psi	Air	UV

Design Name:	Kunkle 548-A (.295 Orifice)	NBCert #	36290
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/19/2026

#### Design Type

[Safety Relief Valve] Kunkle 548-A (.295 Orifice)  
Capacity Tests: Sec. UV at unknown lab on May 20, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.375 NPS	Side NPS	0.068 in <sup>2</sup>	0.295 in	0.126 in	15-400 psi	Air	UV



Design Name:	Kunkle 6000, 6252 Series	NBCert #	36324
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	08/22/2029

### Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2 .5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V

4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name: Kunkle 910 to 919		NBCert #	36100
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	07/23/2026

Design Type
[Safety Relief Valve] Kunkle 910 to 919 Capacity Tests: Sec. UV at unknown lab on May 19, 1969 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name: Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)		NBCert #	36111
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV, V	07/22/2026

Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

Design Name:	Kunkle 920, 921, 927, Agco A (High Temp. water)	NBCert #	36098
Manufacturer/Assembler		Designators	Expiration Date
Assembler		V	07/22/2026

Design Type

[Safety Valve] Kunkle 920, 921, 927, Agco A (High Temp. water)  
Capacity Tests: Sec. V at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Forced Flow Steam Generator/High Temp Hot Water (10% BD)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	V

NUOVA GENERAL INSTRUMENTS S.R.L. (NGI)

Pianello Val Tidone, 29010Italy

This Company Manufactures or Assembles:

Design Name: A001	NBCert # 32500
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 12/02/2028

Design Type
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[Safety Valve] A001  
Capacity Tests: Sec. UV at National Board Testing Lab on May 20, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.712 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: NUOVA GENERAL INSTRUMENTS S.R.L. {NGI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.375 NPS		38.5 mm <sup>2</sup>	7 mm	2.1 mm	15-240 psi	Steam	UV
0.25-0.375 NPS		38.5 mm <sup>2</sup>	7 mm	2.1 mm	15-870 psi	Air	UV
0.375-0.75 NPS		78.5 mm <sup>2</sup>	10 mm	3 mm	15-1537 psi	Air	UV
0.375-0.75 NPS		78.5 mm <sup>2</sup>	10 mm	3 mm	15-240 psi	Steam	UV
0.5 NPS		113 mm <sup>2</sup>	12 mm	3.6 mm	15-240 psi	Steam	UV
0.5 NPS		113 mm <sup>2</sup>	12 mm	3.6 mm	15-435 psi	Air	UV
0.5-1 NPS		154 mm <sup>2</sup>	14 mm	4.2 mm	15-1160 psi	Air	UV
0.5-1 NPS		154 mm <sup>2</sup>	14 mm	4.2 mm	15-240 psi	Steam	UV
1 NPS		254 mm <sup>2</sup>	18 mm	5.4 mm	15-240 psi	Steam	UV
1 NPS		254 mm <sup>2</sup>	18 mm	5.4 mm	15-304 psi	Air	UV
1 NPS		314 mm <sup>2</sup>	20 mm	6 mm	15-240 psi	Steam	UV
1 NPS		314 mm <sup>2</sup>	20 mm	6 mm	15-870 psi	Air	UV
1-1.5 NPS		491 mm <sup>2</sup>	25 mm	7.5 mm	15-240 psi	Steam	UV
1-1.5 NPS		491 mm <sup>2</sup>	25 mm	7.5 mm	15-435 psi	Air	UV
1.5 NPS		804 mm <sup>2</sup>	32 mm	9.6 mm	15-177 psi	Steam	UV
1.5 NPS		804 mm <sup>2</sup>	32 mm	9.6 mm	15-203 psi	Air	UV
1.5-2 NPS		1134 mm <sup>2</sup>	38 mm	11.4 mm	15-240 psi	Steam	UV
1.5-2 NPS		1134 mm <sup>2</sup>	38 mm	11.4 mm	15-435 psi	Air	UV
1.5-2 NPS		1257 mm <sup>2</sup>	40 mm	12 mm	15-240 psi	Steam	UV
1.5-2 NPS		1257 mm <sup>2</sup>	40 mm	12 mm	15-435 psi	Air	UV

Design Name: A002	NBCert # 32511
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/09/2029

## Design Type

[Safety Valve] A002  
 Capacity Tests: Sec. UV at National Board Testing Lab on October 18, 2005  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.622 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: NUOVA GENERAL INSTRUMENTS S.R.L. {NGI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	19.6 mm <sup>2</sup>	5 mm	1.5 mm	15-240 psi	Steam	UV
0.5-1 NPS	1 NPS	19.6 mm <sup>2</sup>	5 mm	1.5 mm	15-8702 psi	Air	UV
0.25-0.375 NPS	.5 NPS	38.5 mm <sup>2</sup>	7 mm	2.1 mm	15-240 psi	Steam	UV
0.25-0.375 NPS	.5 NPS	38.5 mm <sup>2</sup>	7 mm	2.1 mm	15-870 psi	Air	UV
0.5-1 NPS	1 NPS	50.2 mm <sup>2</sup>	8 mm	2.4 mm	15-240 psi	Steam	UV
0.5-1 NPS	1 NPS	50.2 mm <sup>2</sup>	8 mm	2.4 mm	15-4351 psi	Air	UV
0.375-1 NPS	.75, 1 NPS	78.5 mm <sup>2</sup>	10 mm	3 mm	15-2175 psi	Air	UV
0.375-1 NPS	.75, 1 NPS	78.5 mm <sup>2</sup>	10 mm	3 mm	15-240 psi	Steam	UV
0.5-1 NPS	1 NPS	143 mm <sup>2</sup>	13.5 mm	4.1 mm	15-240 psi	Steam	UV
0.5-1 NPS	1 NPS	143 mm <sup>2</sup>	13.5 mm	4.1 mm	15-870 psi	Air	UV
0.5-1.25 NPS	1, 1.25 NPS	154 mm <sup>2</sup>	14 mm	4.2 mm	15-2175 psi	Air	UV
0.5-1.25 NPS	1, 1.25 NPS	154 mm <sup>2</sup>	14 mm	4.2 mm	15-240 psi	Steam	UV
1-1.25 NPS	1.25 NPS	314 mm <sup>2</sup>	20 mm	6 mm	15-240 psi	Steam	UV
1-1.25 NPS	1.25 NPS	314 mm <sup>2</sup>	20 mm	6 mm	15-870 psi	Air	UV
1-1.5 NPS	1.5 NPS	491 mm <sup>2</sup>	25 mm	7.4 mm	15-240 psi	Steam	UV
1-1.5 NPS	1.5 NPS	491 mm <sup>2</sup>	25 mm	7.4 mm	15-870 psi	Air	UV
1.5-1.5 NPS	1.5 NPS	804 mm <sup>2</sup>	32 mm	9.6 mm	15-177 psi	Steam	UV
1.5-1.5 NPS	1.5 NPS	804 mm <sup>2</sup>	32 mm	9.6 mm	15-203 psi	Air	UV
1.5-2 NPS	2 NPS	1134 mm <sup>2</sup>	38 mm	11.4 mm	15-240 psi	Steam	UV
1.5-2 NPS	2 NPS	1134 mm <sup>2</sup>	38 mm	11.4 mm	15-435 psi	Air	UV
1.5-2 NPS	2 NPS	1257 mm <sup>2</sup>	40 mm	12 mm	15-203 psi	Air	UV
1.5-2 NPS	2 NPS	1257 mm <sup>2</sup>	40 mm	12 mm	15-203 psi	Steam	UV

## NYNE MECHANICAL LLC (NYM)

Auburn, MA 01501United States

### This Company Manufactures or Assembles:

Design Name:	243/249/443/449/546/843/849/943/5046/50 49/8043/8049	NBCert #	01292
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	07/24/2026	

## Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049  
 Capacity Tests: Sec. UV at unknown lab on August 8, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 253/259/453/459/853/859/953/959/5059/8053/8059 NBCert # 01304

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/24/2026

## Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
 Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.627 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV

4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/5066/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/24/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069

Capacity Tests: Sec. UV at unknown lab on July 30, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.860 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/24/2026

**Design Type**

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.767 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

07/24/2026

**Design Type**

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.491 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V



4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 81, 81P, 83, 84 NBCert # 01089

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/14/2029

### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 900 Series (Liquid), 7700, SNC NBCert # 15499

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/24/2026

## Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.661 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC

NBCert #

15411

## Manufacturer/Assembler

## Designators

## Expiration Date

Assembler

UV

07/24/2026

## Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV

1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/24/2026

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V

4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/24/2026

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/ABNBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/24/2026

## Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV

6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Oklahoma Safety Equipment Company, Inc. (OSECO) (OSE)

Nameplate Abbreviation: OSECOELFAB

Broken Arrow, OK 74012United States

### This Company Manufactures or Assembles:

Design Name: (F) COV, (F) COH		NBCert #	00033
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UD	08/27/2026	
Design Type			
[Rupture Disk Device] (F) COV, (F) COH			
HolderDesignation: FRDI			
Capacity Tests: Sec. UD at National Board Testing Lab on July 1, 1998			
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl			
Certified Value: 2.370 Unitless			
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)			
Set Pressure Definition: Burst Pressure			
Flow Area Configuration: MNFA			
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.6 in <sup>2</sup>			44-2000 psi		UD
1.5 NPS		1.48 in <sup>2</sup>			31-1400 psi		UD
10 NPS		72.7 in <sup>2</sup>			4-480 psi		UD
12 NPS		101 in <sup>2</sup>			3-400 psi		UD
14 NPS		135 in <sup>2</sup>			3-350 psi		UD
16 NPS		176 in <sup>2</sup>			3-300 psi		UD

18 NPS	230 in <sup>2</sup>	3-270 psi	UD
2 NPS	2.85 in <sup>2</sup>	15-1100 psi	UD
20 NPS	279 in <sup>2</sup>	3-240 psi	UD
24 NPS	415 in <sup>2</sup>	3-200 psi	UD
28 NPS	562 in <sup>2</sup>	3-185 psi	UD
3 NPS	5.41 in <sup>2</sup>	11-900 psi	UD
30 NPS	650 in <sup>2</sup>	3-175 psi	UD
32 NPS	754 in <sup>2</sup>	3-165 psi	UD
34 NPS	855 in <sup>2</sup>	3-158 psi	UD
36 NPS	955 in <sup>2</sup>	3-150 psi	UD
4 NPS	10.3 in <sup>2</sup>	8-830 psi	UD
40 NPS	1194 in <sup>2</sup>	3-143 psi	UD
42 NPS	1320 in <sup>2</sup>	3-150 psi	UD
6 NPS	22.6 in <sup>2</sup>	6-640 psi	UD
8 NPS	45.6 in <sup>2</sup>	5-590 psi	UD

Design Name: 0.25" STD NBCert # 02811

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD3 03/07/2030

#### Design Type

[Rupture Disk Device] 0.25" STD  
HolderDesignation:  
Capacity Tests: Sec. UD3 at Oklahoma Safety Equipment Company, Inc. (OSECO) {unknown test date}  
Certified Value: 0.000 Unitless; (alternate medium): 0.000  
Media - ; Certified: Air, Gas, Liquid  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.0492 in <sup>2</sup>			10000-100000 psi		UD3

Design Name: CO (F) Flat Seat NBCert # 00190

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 04/27/2029

#### Design Type

[Rupture Disk Device] CO (F) Flat Seat  
HolderDesignation: FRDI  
Capacity Tests: Sec. UD at National Board Testing Lab on October 26, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.500 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			43-2000 psi		UD

1.5 NPS	2.036 in <sup>2</sup>	31-1400 psi	UD
10 NPS	75.74 in <sup>2</sup>	4-480 psi	UD
12 NPS	107.8 in <sup>2</sup>	3-400 psi	UD
14 NPS	137.8 in <sup>2</sup>	3-350 psi	UD
16 NPS	180.1 in <sup>2</sup>	3-300 psi	UD
18 NPS	233.7 in <sup>2</sup>	3-270 psi	UD
2 NPS	3.355 in <sup>2</sup>	15-1100 psi	UD
20 NPS	281.7 in <sup>2</sup>	3-240 psi	UD
24 NPS	405.9 in <sup>2</sup>	3-200 psi	UD
28 NPS	522.7 in <sup>2</sup>	3-185 psi	UD
3 NPS	7.393 in <sup>2</sup>	11-900 psi	UD
30 NPS	634.7 in <sup>2</sup>	3-175 psi	UD
32 NPS	722.2 in <sup>2</sup>	3-165 psi	UD
36 NPS	914.3 in <sup>2</sup>	3-150 psi	UD
4 NPS	12.73 in <sup>2</sup>	8-830 psi	UD
42 NPS	1244.9 in <sup>2</sup>	3-135 psi	UD
6 NPS	28.89 in <sup>2</sup>	6-640 psi	UD
8 NPS	50 in <sup>2</sup>	5-590 psi	UD

Design Name: FAS, WDA/FAS NBCert # 00011

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/09/2026

#### Design Type

[Rupture Disk Device] FAS, WDA/FAS  
HolderDesignation: FRDI, Safety Cartridge  
Capacity Tests: Sec. UD at National Board Testing Lab on November 11, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.223 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			70-6500 psi		UD
1.5 NPS		2.036 in <sup>2</sup>			50-6500 psi		UD
10 NPS		78.9 in <sup>2</sup>			35-1500 psi		UD
12 NPS		113.1 in <sup>2</sup>			35-1300 psi		UD
14 NPS		137.9 in <sup>2</sup>			40-1000 psi		UD
16 NPS		176.7 in <sup>2</sup>			45-900 psi		UD
18 NPS		233.7 in <sup>2</sup>			50-800 psi		UD
2 NPS		3.355 in <sup>2</sup>			40-5500 psi		UD
24 NPS		424.6 in <sup>2</sup>			40-600 psi		UD
3 NPS		7.393 in <sup>2</sup>			25-5000 psi		UD
4 NPS		12.73 in <sup>2</sup>			25-2000 psi		UD



6 NPS	28.89 in <sup>2</sup>	25-1800 psi	UD
8 NPS	50 in <sup>2</sup>	30-1500 psi	UD

Design Name:	GR, GRO	NBCert #	00246
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 02/16/2029

#### Design Type

[Rupture Disk Device] GR, GRO  
Capacity Tests: Sec. UD at National Board Testing Lab on September 20, 2001  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.220 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.714 in <sup>2</sup>			20-150 psi		UD
1.5 NPS		1.606 in <sup>2</sup>			13-150 psi		UD
10 NPS		71.4 in <sup>2</sup>			2.5-150 psi		UD
2 NPS		2.856 in <sup>2</sup>			10-150 psi		UD
3 NPS		6.426 in <sup>2</sup>			7-150 psi		UD
4 NPS		11.42 in <sup>2</sup>			5-150 psi		UD
6 NPS		25.7 in <sup>2</sup>			3-150 psi		UD
8 NPS		45.7 in <sup>2</sup>			2.5-150 psi		UD

Design Name:	HPSR-LP (Liquid)	NBCert #	01843
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/16/2030

#### Design Type

[Rupture Disk Device] HPSR-LP (Liquid)  
HolderDesignation: WDA Welded Holder, HPRDI Insert Holder  
Capacity Tests: Sec. UD at Oklahoma Safety Equipment Company, Inc. (OSECO) on October 1, 2018  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
Certified Value:24.000 Unitless  
Media - Test: Air/Gas; Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.31 in <sup>2</sup>			500-700 psi		UD

Design Name:	LoKr	NBCert #	02619
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 07/14/2028

**Design Type**

[Rupture Disk Device] LoKr  
HolderDesignation: LKR, Safety Cartridge  
Capacity Tests: Sec. UD at Oklahoma Safety Equipment Company, Inc. (OSECO) {unknown test date}  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.220 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		2.04 in <sup>2</sup>			10-2200 psi		UD
10 NPS		78.85 in <sup>2</sup>			10-500 psi		UD
12 NPS		111.9 in <sup>2</sup>			10-300 psi		UD
2 NPS		3.36 in <sup>2</sup>			10-2200 psi		UD
3 NPS		7.39 in <sup>2</sup>			10-2200 psi		UD
4 NPS		12.73 in <sup>2</sup>			10-1500 psi		UD
6 NPS		28.89 in <sup>2</sup>			10-750 psi		UD
8 NPS		50.02 in <sup>2</sup>			10-750 psi		UD

Design Name: LoKr (1 in.) NBCert # 02620

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

07/14/2028

**Design Type**

[Rupture Disk Device] LoKr (1 in.)  
HolderDesignation: LKR, Safety Cartridge  
Capacity Tests: Sec. UD at Oklahoma Safety Equipment Company, Inc. (OSECO) {unknown test date}  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
Certified Value: 0.210 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			15-2500 psi		UD

Design Name: OPFTK+ NBCert # 00426

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

06/20/2027

**Design Type**

[Rupture Disk Device] OPFTK+  
HolderDesignation: OPK, Safety Cartridge  
Capacity Tests: Sec. UD at National Board Testing Lab on February 19, 2010  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 2.770 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.792 in <sup>2</sup>			100-1160 psi		UD
1.5 NPS		1.709 in <sup>2</sup>			100-1087 psi		UD
10 NPS		67.64 in <sup>2</sup>			50-274 psi		UD
12 NPS		99.28 in <sup>2</sup>			50-250 psi		UD
2 NPS		2.899 in <sup>2</sup>			100-1015 psi		UD
3 NPS		7.029 in <sup>2</sup>			100-600 psi		UD
4 NPS		11.17 in <sup>2</sup>			100-363 psi		UD
6 NPS		24.18 in <sup>2</sup>			75-320 psi		UD
8 NPS		45.46 in <sup>2</sup>			50-300 psi		UD

Design Name: OPFTR+	NBCert # 00437
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 06/29/2027

#### Design Type

[Rupture Disk Device] OPFTR+  
HolderDesignation: OPR, Safety Cartridge  
Capacity Tests: Sec. UD at National Board Testing Lab on February 3, 2010  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.700 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.775 in <sup>2</sup>			47-250 psi		UD
1.5 NPS		1.693 in <sup>2</sup>			25-250 psi		UD
10 NPS		65.05 in <sup>2</sup>			19-100 psi		UD
12 NPS		94.87 in <sup>2</sup>			19-100 psi		UD
2 NPS		2.843 in <sup>2</sup>			15-250 psi		UD
3 NPS		6.809 in <sup>2</sup>			8-200 psi		UD
4 NPS		10.96 in <sup>2</sup>			5-175 psi		UD
6 NPS		23.38 in <sup>2</sup>			15-100 psi		UD
8 NPS		44.18 in <sup>2</sup>			19-100 psi		UD

Design Name: OPK+	NBCert # 00459
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 09/20/2028

**Design Type**

[Rupture Disk Device] OPK+  
HolderDesignation: OPK, Safety Cartridge  
Capacity Tests: Sec. UD at National Board Testing Lab on February 3, 2010  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.500 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.792 in <sup>2</sup>			100-1160 psi		UD
1.5 NPS		1.709 in <sup>2</sup>			100-1087 psi		UD
10 NPS		67.64 in <sup>2</sup>			50-274 psi		UD
12 NPS		99.28 in <sup>2</sup>			50-250 psi		UD
2 NPS		2.899 in <sup>2</sup>			100-1015 psi		UD
3 NPS		7.029 in <sup>2</sup>			100-600 psi		UD
4 NPS		11.17 in <sup>2</sup>			100-363 psi		UD
6 NPS		24.18 in <sup>2</sup>			75-320 psi		UD
8 NPS		45.46 in <sup>2</sup>			50-300 psi		UD

Design Name: OPR+

NBCert #

00448

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

06/29/2027

**Design Type**

[Rupture Disk Device] OPR+  
HolderDesignation: OPR, Safety Cartridge  
Capacity Tests: Sec. UD at National Board Testing Lab on October 30, 2009  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.780 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.775 in <sup>2</sup>			47-250 psi		UD
1.5 NPS		1.693 in <sup>2</sup>			25-250 psi		UD
10 NPS		65.05 in <sup>2</sup>			13-100 psi		UD
12 NPS		94.87 in <sup>2</sup>			13-100 psi		UD
2 NPS		2.843 in <sup>2</sup>			15-250 psi		UD
3 NPS		6.809 in <sup>2</sup>			8-200 psi		UD
4 NPS		10.96 in <sup>2</sup>			5-175 psi		UD
6 NPS		23.38 in <sup>2</sup>			13-100 psi		UD
8 NPS		44.18 in <sup>2</sup>			13-100 psi		UD

Design Name: PCR, PCRL		NBCert #	00055
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	01/09/2026
Design Type			
[Rupture Disk Device] PCR, PCRL HolderDesignation: PRDI, Safety Cartridge Capacity Tests: Sec. UD at National Board Testing Lab on November 11, 1998 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 2.170 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS		0.39 in <sup>2</sup>			85-750 psi	Air	UD
1 NPS		0.6 in <sup>2</sup>			95-1250 psi		UD
1.5 NPS		1.3 in <sup>2</sup>			70-2500 psi		UD
10 NPS		51.25 in <sup>2</sup>			30-700 psi		UD
12 NPS		73.4 in <sup>2</sup>			25-500 psi		UD
2 NPS		2.5 in <sup>2</sup>			45-1000 psi		UD
3 NPS		4.8 in <sup>2</sup>			35-1000 psi		UD
4 NPS		8 in <sup>2</sup>			30-870 psi		UD
6 NPS		18 in <sup>2</sup>			25-800 psi		UD
8 NPS		32 in <sup>2</sup>			35-700 psi		UD

Design Name: PRO +, PRO+L, RPRO+, RPRO+L (air/gas)		NBCert #	00381
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	09/20/2028
Design Type			
[Rupture Disk Device] PRO +, PRO+L, RPRO+, RPRO+L (air/gas) HolderDesignation: PRDI Capacity Tests: Sec. UD at National Board Testing Lab on October 7, 2005 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 0.290 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			21-1000 psi		UD
1.5 NPS		2.036 in <sup>2</sup>			14-1000 psi		UD
10 NPS		78.9 in <sup>2</sup>			4-250 psi	Air	UD
2 NPS		3.355 in <sup>2</sup>			8-750 psi		UD
3 NPS		7.393 in <sup>2</sup>			8-500 psi		UD
4 NPS		12.73 in <sup>2</sup>			8-500 psi		UD

6 NPS	28.89 in <sup>2</sup>	6-300 psi	UD
8 NPS	50 in <sup>2</sup>	6-250 psi	Air UD

Design Name:	PRO+KRGL, PRO+KRGL-L	NBCert #	00460
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	10/22/2028
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Design Type
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[Rupture Disk Device] PRO+KRGL, PRO+KRGL-L  
HolderDesignation: PRDI, Safety Cartridge  
Capacity Tests: Sec. UD at National Board Testing Lab on October 22, 2010  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.690 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.864 in <sup>2</sup>			21-1000 psi	Water	UD
1.5 NPS		2.036 in <sup>2</sup>			14-1000 psi		UD
10 NPS		78.9 in <sup>2</sup>			4-250 psi	Water	UD
2 NPS		3.355 in <sup>2</sup>			8-1000 psi		UD
3 NPS		7.393 in <sup>2</sup>			8-900 psi		UD
4 NPS		12.73 in <sup>2</sup>			8-800 psi		UD
6 NPS		28.89 in <sup>2</sup>			6-750 psi		UD
8 NPS		50 in <sup>2</sup>			6-500 psi	Water	UD

Design Name:	PSR, PSRL, SSR, SSRL	NBCert #	00077
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	01/22/2027
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Design Type
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[Rupture Disk Device] PSR, PSRL, SSR, SSRL  
HolderDesignation: PRDI  
Capacity Tests: Sec. UD at National Board Testing Lab on March 31, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 2.130 Unitless  
Media - Test: Air/Gas; Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.6 in <sup>2</sup>			40-225 psi		UD
1.5 NPS		1.3 in <sup>2</sup>			25-200 psi		UD
10 NPS		51.25 in <sup>2</sup>			15-100 psi		UD
12 NPS		73.4 in <sup>2</sup>			15-100 psi		UD
2 NPS		2.5 in <sup>2</sup>			19-100 psi		UD
3 NPS		4.8 in <sup>2</sup>			15-75 psi		UD

4 NPS	8 in²	15-75 psi	UD
6 NPS	18 in²	15-50 psi	UD
8 NPS	32 in²	15-50 psi	UD

Design Name:   STD		NBCert #       00268
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	04/20/2027
Design Type		
[Rupture Disk Device] STD HolderDesignation: RDI Capacity Tests: Sec. UD at National Board Testing Lab on May 11, 1999 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl Certified Value: 0.880 Unitless Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.049 in²			160-70000 psi		UD
0.5 NPS		0.19 in²			80-30000 psi		UD
0.75 NPS		0.44 in²			70-3000 psi		UD
1 NPS		0.6 in²			40-12000 psi		UD
1.5 NPS		1.48 in²			26-6000 psi		UD
10 NPS		72.7 in²			4-1400 psi		UD
12 NPS		101 in²			4-1000 psi		UD
14 NPS		135 in²			3-750 psi		UD
16 NPS		176 in²			3-500 psi		UD
18 NPS		230 in²			3-475 psi		UD
2 NPS		2.85 in²			16-6000 psi		UD
20 NPS		279 in²			2-450 psi		UD
24 NPS		415 in²			2-450 psi		UD
3 NPS		5.41 in²			12-6000 psi		UD
4 NPS		10.3 in²			9-6000 psi		UD
6 NPS		22.3 in²			7-3600 psi		UD
8 NPS		45.6 in²			5-2100 psi		UD

Design Name:   STDV		NBCert #       00022
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/18/2025

Design Type

[Rupture Disk Device] STDV  
HolderDesignation: RDI  
Capacity Tests: Sec. UD at National Board Testing Lab on December 18, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.980 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Oklahoma Safety Equipment Company, Inc. (OSECO) {OSE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.6 in²			145-12000 psi		UD
1.5 NPS		1.48 in²			95-6000 psi		UD
10 NPS		72.7 in²			14-1400 psi		UD
12 NPS		101 in²			12-1000 psi		UD
14 NPS		135 in²			11-750 psi		UD
16 NPS		176 in²			9-500 psi		UD
18 NPS		230 in²			8-475 psi		UD
2 NPS		2.85 in²			55-6000 psi		UD
20 NPS		279 in²			8-450 psi		UD
24 NPS		415 in²			37-450 psi		UD
3 NPS		5.41 in²			41-6000 psi		UD
4 NPS		10.3 in²			31-6000 psi		UD
6 NPS		22.6 in²			23-3600 psi		UD
8 NPS		45.6 in²			18-2100 psi		UD

PACIFIC CONTROLS PTY LTD (PAC)

Tingalpa, QLD 4173Australia

This Company Manufactures or Assembles:

Design Name: 900 Series (Liquid), 7700, SNC		NBCert #	15499
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	08/08/2025	

Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in²	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV



0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC

NBCert #

15411

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/08/2025

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids)

NBCert #

15095

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/08/2025

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name:	JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB	NBCert #	15208
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/08/2025
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### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV

6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Parker Hannifin Corporation (FVC)

Nameplate Abbreviation: Parker PGI

Houston, TX 77041United States

### This Company Manufactures or Assembles:

Design Name: AA1310B

NBCert # 24039

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

06/19/2025

#### Design Type

[Safety Relief Valve] AA1310B

Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on April 3, 1979

Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method

Certified Value:5405.0 SCFM; Certification Provisions: Cert. @ 20% OP

Media - Test: Air/Gas; Certified: Gas

Set Pressure Definition: Start-to-Leak

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Parker Hannifin Corporation {FVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS		1.009 in <sup>2</sup>	1.134 in		265-265 psi	Air	UV

## Parker Hannifin Corporation (RSP)

Nameplate Abbreviation: Parker

Mauston, WI 53948United States

### This Company Manufactures or Assembles:

Design Name: H-2		NBCert #	45009
Manufacturer/Assembler	Designators		Expiration Date
Manufacturer	UV		03/23/2027
Design Type			
[Safety Relief Valve] H-2 Capacity Tests: Sec. UV at National Board Testing Lab (Picaway) on May 4, 1983 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 4.340 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Parker Hannifin Corporation {RSP} Comments: Valve assembly includes separate proprietary flange. Connection size listed is the valve base only and does not show customer connection to proprietary flange.			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	1 NPS	0.3068 in <sup>2</sup>	0.625 in	0.152 in	50-300 psi	Air	UV

Design Name: SR Series (1/2 in. Liquid)		NBCert #	45111
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	02/01/2030	
Design Type			
[Relief Valve] SR Series (1/2 in. Liquid) Capacity Tests: Sec. UV at National Board Testing Lab on October 25, 2011 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.240 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Parker Hannifin Corporation {RSP}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.0412 in <sup>2</sup>	0.229 in	0.056 in	50-100 psi	Water	UV

Design Name:	SR Series (3/4 in. Liquid)	NBCert #	45122
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	02/01/2030	

**Design Type**

[Relief Valve] SR Series (3/4 in. Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on October 25, 2011  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.060 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.0731 in <sup>2</sup>	0.305 in	0.056 in	50-100 psi	Water	UV

Design Name: SR1, CSR1 NBCert # 45043

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

10/02/2030

**Design Type**

[Safety Relief Valve] SR1, CSR1  
Capacity Tests: Sec. UV at National Board Testing Lab on August 20, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.725 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.088 in <sup>2</sup>	0.5 in	0.055 in	100-400 psi	Air	UV

Design Name: SR1R NBCert # 45133

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

03/17/2028

**Design Type**

[Safety Relief Valve] SR1R  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.329 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.088 in <sup>2</sup>	0.5 in	0.056 in	150-400 psi	Air	UV

Design Name: SR2, CSR2 NBCert # 45054

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

10/02/2030

**Design Type**

[Safety Relief Valve] SR2, CSR2  
Capacity Tests: Sec. UV at National Board Testing Lab on August 20, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.370 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	1 NPS	0.196 in <sup>2</sup>	0.5 in	0.055 in	150-400 psi	Air	UV

Design Name:	SR3, CSR3	NBCert #	45065
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	07/18/2030
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**Design Type**

[Safety Relief Valve] SR3, CSR3  
Capacity Tests: Sec. UV at National Board Testing Lab on June 24, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.100 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.25 NPS	0.1314 in <sup>2</sup>	0.409 in	0.103 in	150-400 psi	Air	UV

Design Name:	SR4, CSR4	NBCert #	45076
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	07/18/2030
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**Design Type**

[Safety Relief Valve] SR4, CSR4  
Capacity Tests: Sec. UV at National Board Testing Lab on March 5, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.729 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.1794 in <sup>2</sup>	0.478 in	0.103 in	150-400 psi	Air	UV

Design Name:	SRH1, SRH2, SRH3, CSRH1, CSRH2, CSRH3	NBCert #	45087
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	07/18/2030
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**Design Type**

[Safety Relief Valve] SRH1, SRH2, SRH3, CSRH1, CSRH2, CSRH3  
Capacity Tests: Sec. UV at National Board Testing Lab on March 4, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.580 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.196 in <sup>2</sup>	0.5 in	0.186 in	150-400 psi	Air	UV

Design Name: SRH1R	NBCert # 45144
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	06/17/2026
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**Design Type**

[Safety Relief Valve] SRH1R  
Capacity Tests: Sec. UV at National Board Testing Lab on March 9, 2020  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.280 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.181 in <sup>2</sup>	0.5 in	0.115 in	150-400 psi	Air	UV

Design Name: SRH3R	NBCert # 45155
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	06/17/2026
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**Design Type**

[Safety Relief Valve] SRH3R  
Capacity Tests: Sec. UV at National Board Testing Lab on March 9, 2020  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.580 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1. in	0.196 in <sup>2</sup>	0.5 in	0.211 in	150-400 psi	Air	UV

Design Name: SRH3UR	NBCert # 45166
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer	UV	06/17/2026
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Design Type

[Safety Relief Valve] SRH3UR  
Capacity Tests: Sec. UV at National Board Testing Lab on March 9, 2020  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.750 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.094 in²	0.5 in	0.06 in	150-400 psi	Air	UV

Design Name:	SRH4R	NBCert #	45177
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/17/2026

Design Type

[Safety Relief Valve] SRH4R  
Capacity Tests: Sec. UV at National Board Testing Lab on March 9, 2020  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Gas  
Set Pressure Definition: Start-to-Leak  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Parker Hannifin Corporation {RSP}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS	0.131 in²	0.409 in	0.148 in	150-400 psi	Air	UV

Permian Pump & Valve (PER)

Odessa, TX 79764United States

This Company Manufactures or Assembles:

Design Name:	Reyco R, RB & RO (Fig. 971, 973, 974)	NBCert #	73000
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/07/2027

Design Type

[Safety Relief Valve] Reyco R, RB & RO (Fig. 971, 973, 974)  
Capacity Tests: Sec. UV at National Board Testing Lab on March 19, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.12 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.12 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.16 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.16 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.34 in <sup>2</sup>	[F] 0.658 in	0.2 in	15-2900 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.34 in <sup>2</sup>	[F] 0.658 in	0.2 in	15-6250 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.558 in <sup>2</sup>	[G] 0.843 in	0.26 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.558 in <sup>2</sup>	[G] 0.843 in	0.26 in	15-4905 psi	Air	UV
1.5-2 NPS	3 NPS	0.869 in <sup>2</sup>	[H] 1.052 in	0.32 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.869 in <sup>2</sup>	[H] 1.052 in	0.32 in	15-3300 psi	Air	UV
2-3 NPS	3, 4 NPS	1.427 in <sup>2</sup>	[J] 1.348 in	0.41 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.427 in <sup>2</sup>	[J] 1.348 in	0.41 in	15-3300 psi	Air	UV
3 NPS	4, 6 NPS	2.036 in <sup>2</sup>	[K] 1.61 in	0.49 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.036 in <sup>2</sup>	[K] 1.61 in	0.49 in	15-3300 psi	Air	UV
3-4 NPS	4, 6 NPS	3.16 in <sup>2</sup>	[L] 2.006 in	0.61 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.16 in <sup>2</sup>	[L] 2.006 in	0.61 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	3.987 in <sup>2</sup>	[M] 2.253 in	0.69 in	15-1600 psi	Air	UV
4 NPS	6 NPS	3.987 in <sup>2</sup>	[M] 2.253 in	0.69 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	4.807 in <sup>2</sup>	[N] 2.474 in	0.75 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.807 in <sup>2</sup>	[N] 2.474 in	0.75 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P] 3 in	0.92 in	15-1600 psi	Air	UV
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P] 3 in	0.92 in	15-1600 psi	Steam	UV
6 NPS	8 NPS	12.24 in <sup>2</sup>	[Q] 3.948 in	1.2 in	15-925 psi	Air	UV
6 NPS	8 NPS	12.24 in <sup>2</sup>	[Q] 3.948 in	1.2 in	15-925 psi	Steam	UV
6 NPS	8, 10 NPS	17.72 in <sup>2</sup>	[R] 4.75 in	1.45 in	15-350 psi	Air	UV
6 NPS	8, 10 NPS	17.72 in <sup>2</sup>	[R] 4.75 in	1.45 in	15-350 psi	Steam	UV
8 NPS	10 NPS	29.75 in <sup>2</sup>	[T] 6.155 in	1.84 in	15-325 psi	Air	UV
8 NPS	10 NPS	29.75 in <sup>2</sup>	[T] 6.155 in	1.84 in	15-325 psi	Steam	UV

Design Name:	Reyco R, RB, RO, RBO (Fig. 971, 973, 974) (liquid)	NBCert #	73011
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

04/07/2027

#### Design Type

[Relief Valve] Reyco R, RB, RO, RBO (Fig. 971, 973, 974) (liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on September 27, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.724 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 2.5, 3 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.12 in	15-6250 psi	Water	UV
1-1.5 NPS	2, 2.5, 3 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.16 in	15-6250 psi	Water	UV
1.5 NPS	2 - 3 NPS	0.34 in <sup>2</sup>	[F] 0.658 in	0.2 in	15-6250 psi	Water	UV
1.5-2 NPS	2.5, 3 NPS	0.558 in <sup>2</sup>	[G] 0.843 in	0.26 in	15-4905 psi	Water	UV
1.5-2 NPS	3 NPS	0.869 in <sup>2</sup>	[H] 1.052 in	0.32 in	15-3300 psi	Water	UV
2-3 NPS	3, 4 NPS	1.427 in <sup>2</sup>	[J] 1.348 in	0.41 in	15-3300 psi	Water	UV
3 NPS	4, 6 NPS	2.036 in <sup>2</sup>	[K] 1.61 in	0.49 in	15-3300 psi	Water	UV
3-4 NPS	4, 6 NPS	3.16 in <sup>2</sup>	[L] 2.006 in	0.61 in	15-2900 psi	Water	UV
4 NPS	6 NPS	3.987 in <sup>2</sup>	[M] 2.253 in	0.69 in	15-1600 psi	Water	UV
4 NPS	6 NPS	4.807 in <sup>2</sup>	[N] 2.474 in	0.75 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P] 3 in	0.92 in	15-1600 psi	Water	UV
6 NPS	8 NPS	12.24 in <sup>2</sup>	[Q] 3.948 in	1.2 in	15-925 psi	Water	UV
6 NPS	8, 10 NPS	17.72 in <sup>2</sup>	[R] 4.75 in	1.45 in	15-350 psi	Water	UV
8 NPS	10 NPS	29.75 in <sup>2</sup>	[T] 6.155 in	1.84 in	15-325 psi	Water	UV

Design Name: RL-14 & RLO-14 (0.315 in. orifice) NBCert # 73044

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/07/2027

#### Design Type

[Safety Relief Valve] RL-14 & RLO-14 (0.315 in. orifice)  
Capacity Tests: Sec. UV at National Board Testing Lab on June 8, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.230 SCFM/PSIA; (alternate medium): 3.460 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.078 in <sup>2</sup>	0.315 in	0.078 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.078 in <sup>2</sup>	0.315 in	0.078 in	15-5000 psi	Air	UV

Design Name: RL-14 & RLO-14 (0.315 in. orifice) (Liquids) NBCert # 73055

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/07/2027

#### Design Type

[Relief Valve] RL-14 & RLO-14 (0.315 in. orifice) (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on June 4, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.880 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.078 in <sup>2</sup>	0.315 in	0.078 in	15-5000 psi	Water	UV

Design Name:	RL14 & RLO14 (0.394 in. orifice)	NBCert #	73202
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/07/2027

Design Type
[Safety Relief Valve] RL14 & RLO14 (0.394 in. orifice) Capacity Tests: Sec. UV at National Board Testing Lab on September 30, 2014 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.637 SCFM/PSIA; (alternate medium): 4.600 PPH/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: ARI - Armaturen USA, LP {TAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.122 in <sup>2</sup>	0.394 in	0.0985 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.122 in <sup>2</sup>	0.394 in	0.0985 in	15-5000 psi	Air	UV

## Pioneer Industrial Corporation (PIC)

Calvert City, KY 42029United States

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/26/2028

Design Type
[Safety Valve] 1541, 1543, 1541-3, 1543-3 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V

0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 09/26/2028

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV

2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV 09/26/2028

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	09/26/2028
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#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV

8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201) NBCert # 18223

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/08/2028

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV



6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV

Design Name: 19000 Series NBCert # 18706

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/26/2028

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV

1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

09/26/2028

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

# Pioneer Industrial Corporation (PLA)

Nameplate Abbreviation: PRV

Hastings, NE 68901United States

## This Company Manufactures or Assembles:

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	08/02/2030	

Design Type
[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.670 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	19000 Series, Liquid	NBCert #	18717
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	08/02/2030	

**Design Type**

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/02/2030

**Design Type**

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/02/2030

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

08/02/2030

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 1982 LS, 820000LS NBCert # 18380

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

08/02/2030

**Design Type**

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV

1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Pioneer Pump and Packing - DBA Pioneer Industrial Corporation (ZLT)

Nameplate Abbreviation: Pioneer Industrial

St. Louis, MO 63104United States

This Company Manufactures or Assembles:

Design Name:	1700 & 2700 (Restricted Lift version of Cert. # 18100)	NBCert #	18111
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV, V

11/14/2028

Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV

6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name: 1900, 1900-30 1900-35 LA & DALA (Liquids) NBCert # 18784

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/12/2030

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/12/2030

### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/07/2030

### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V



Design Name: 1900-DM	NBCert # 19066
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/30/2029

#### Design Type

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV

12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D		NBCert # 19088
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/30/2029
Design Type		
<div>[Safety Relief Valve] 1900-DM-D Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}</div>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E		NBCert # 19099
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/30/2029
Design Type		
<p>[Safety Relief Valve] 1900-DM-E Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762		
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/12/2030
Design Type		

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 5.798 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in²	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V
Design Name: 19110M & 19110H (Liquids)NBCert #19077							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			02/07/2030	
Design Type							
[Relief Valve] 19110M & 19110H (Liquids) Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.264 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1
Design Name: 2900 (39PV & 39MV pilots - Liquid)NBCert #18874							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			02/10/2027	
Design Type							
[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid) Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.670 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in²	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in²	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in²	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in²	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in²	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in²	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.138 in²	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in²	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in²	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in²	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V

4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name:	2900 (39PV & 39MV pilots)	NBCert #	18863
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/10/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV

6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/10/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV

2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV

10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid) NBCert # 18458

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/10/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV

6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Portersville PRD LLC (PRK)

Nameplate Abbreviation: Portersville  
PRD - SP

South Point, OH 45680United States

### This Company Manufactures or Assembles:

Design Name:	2600 & 2600S	NBCert #	57057
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	12/13/2028
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#### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV



3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Liquids) NBCert # 57068

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/13/2028

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2600L (Liquids) Series Restricted Lift version of Cert Number 57068.	NBCert #	57417
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	10/11/2028
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#### Design Type

[Safety Relief Valve] 2600L (Liquids) Series Restricted Lift version of Cert Number 57068.  
Capacity Tests: Sec. UV, V at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on January 23, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Water	UV, V
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-6000 psi	Water	UV, V
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-5000 psi	Water	UV, V
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.098 in	15-3600 psi	Water	UV, V
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.122 in	15-2750 psi	Water	UV, V
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.156 in	15-2700 psi	Water	UV, V
3 in	4, 6 in	2.041 in <sup>2</sup>	[K] 1.612 in	0.187 in	15-2200 psi	Water	UV, V
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.232 in	15-1500 psi	Water	UV, V
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.261 in	15-1100 psi	Water	UV, V
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.287 in	15-1000 psi	Water	UV, V
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.348 in	15-1000 psi	Water	UV, V

6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.458 in	15-900 psi	Water	UV, V
6-8 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.551 in	15-600 psi	Water	UV, V
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.702 in	15-300 psi	Water	UV, V
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.741 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S NBCert # 57237

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/25/2025

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids) NBCert # 57248

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/14/2028

**Design Type**

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 4200 / 4400

NBCert # 57282

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

V

10/25/2025

**Design Type**

[Safety Valve] 4200 / 4400  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.872 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

## Portersville PRD, LLC (PRV)

North Chesterfield, VA 23236United States

### This Company Manufactures or Assembles:

Design Name: 2600 & 2600S		NBCert # 57057
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/19/2030

### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV

6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name:	2600L (Liquids)	NBCert #	57068
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 01/19/2030

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V

4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S NBCert # 57237

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/29/2030

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids) NBCert # 57248

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/17/2026

Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in²	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in²	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in²	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in²	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in²	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in²	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in²	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in²	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in²	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Portersville PRD, LLC (PTI)Nameplate Abbreviation: Portersville PRD

Tallmadge, OH 44278United States

This Company Manufactures or Assembles:

Design Name: 2600 & 2600S		NBCert # 57057
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/21/2029

Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV



1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600 Series Restricted Lift version of Cert Number 57057 NBCert # 57406

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/26/2028

## Design Type

[Safety Relief Valve] 2600 Series Restricted Lift version of Cert Number 57057

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 10, 2017

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Restricted Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Steam	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Steam	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Steam	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Air	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Steam	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Air	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Steam	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Air	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Steam	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Air	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Steam	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Air	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Steam	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Air	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Steam	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Air	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Steam	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Air	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Steam	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Air	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Steam	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Air	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Steam	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Air	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Steam	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Air	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Steam	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Air	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Steam	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Air	UV

12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Steam	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Air	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Steam	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Air	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Steam	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Air	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Steam	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Air	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam) Series Restricted Lift version of Cert Number 57260 NBCert # 57439

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/09/2028

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam) Series Restricted Lift version of Cert Number 57260  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 6, 2018  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-2900 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.089 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.089 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.111 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.111 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.142 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.142 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.169 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.169 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.211 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.211 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.237 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.237 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.26 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.26 in	15-3000 psi	Air	UV

4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.315 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.315 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.415 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.415 in	15-2000 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	0.5 in	15-1500 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	0.5 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	0.638 in	15-1000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	0.638 in	15-1000 psi	Steam	UV
8 NPS	10 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	0.665 in	15-300 psi	Air	UV
8 NPS	10 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	0.665 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids)			NBCert # 57068	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		08/28/2029

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/23/2029

### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/20/2029

### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800	NBCert # 57024
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/06/2026
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV

3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/06/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV

10 NPS14 NPS49.02 in<sup>2</sup>[V] 7.9 in2.94 in15-1400 psiWaterUV

Portersville PRD, LLC. (PVE)

New Castle, PA 16101United States

This Company Manufactures or Assembles:

Design Name: 2400		NBCert # 57451	
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	08/13/2026
Design Type			
[Safety Relief Valve] 2400 Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on August 28, 2019 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.817 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75-1 NPS	0.049 in <sup>2</sup>	[B] 0.25 in	0.08 in	20-2000 psi	Air	UV
0.5-1 NPS	1-2 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.12 in	20-1410 psi	Air	UV
0.75-1 NPS	1-2 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.175 in	20-600 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.295 in	20-4000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.365 in	20-3000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.435 in	20-2500 psi	Air	UV

Design Name: 2600 & 2600S		NBCert # 57057	
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	07/10/2027
Design Type			
[Safety Relief Valve] 2600 & 2600S Capacity Tests: Sec. UV at unknown lab on June 11, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV



1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)	NBCert # 57260
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	02/07/2026
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#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV
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Design Name:	2600L (Liquids)	NBCert #	57068
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 09/25/2030

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/10/2027

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	10/04/2025
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#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800	NBCert # 57024
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	02/07/2026
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV

8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800FP NBCert # 57035

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/10/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/04/2025

**Design Type**

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
 Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.782 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition(1): Pop; (2): First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

Design Name: 4200 / 4400

NBCert # 57282

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/10/2027

**Design Type**

[Safety Valve] 4200 / 4400  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.872 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V

2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

Design Name: 6400/6600 (previously 2500 & 4600) NBCert # 57046

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 07/10/2027

#### Design Type

[Safety Valve] 6400/6600 (previously 2500 & 4600)  
Capacity Tests: Sec. UV, V at Ohio State University (Robinson Laboratory) on January 28, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	V
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	V
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	V
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Steam	V
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Steam	V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Steam	V
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Steam	UV
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Air	UV
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Steam	V
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Steam	V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Steam	UV



3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Air	UV
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Steam	V
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Steam	UV
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Air	UV
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Steam	V
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Steam	V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Steam	UV
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Air	UV
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Steam	V
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Steam	V
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Steam	UV

## Precision Pump & Valve Service, Inc. (PPV)

Cross Lanes, WV 25313United States

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
Manufacturer/Assembler	Designators	Expiration Date	

Assembler	UV, V	04/14/2028
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### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V

0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	05/25/2030
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#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV

2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/14/2028

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series, Liquid

NBCert #

18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/08/2025

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV

1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 NBCert # 18144

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/14/2028

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	05/25/2030

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/25/2030

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/14/2028

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/05/2030

#### Design Type

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 1982 NBCert # 18379

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/25/2030

## Design Type

[Safety Relief Valve] 1982  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab (Picaway) on May 6, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Air	NV, UV
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Steam	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Air	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Steam	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Air	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Air	NV, UV

Design Name: 1982 LS, 820000LS

NBCert # 18380

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/14/2028

## Design Type

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

## Precision Services, Inc. (PUM)

Louisville, KY 40299United States

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	09/07/2029	

### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V



2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV
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Design Name:	1700 & 2700	NBCert #	18100
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 09/19/2029

#### Design Type

[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/20/2029

### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/18/2029

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/19/2029

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)		NBCert #	18223
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	06/29/2029	

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Restricted Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV

10 NPS	14 NPS	50.26 in²	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV
Design Name: 19000 Series				NBCert #	18706		
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			09/19/2029	
Design Type							
[Safety Relief Valve] 19000 Series Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/18/2029

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/20/2029

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.1279 in²	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV
Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751							
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV, V		09/18/2029		
Design Type							
[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.256 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in²	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V
Design Name: 1900-DM							
NBCert #				19066			
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			02/24/2028	
Design Type							
[Safety Relief Valve] 1900-DM Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV



4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

02/24/2028

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E

NBCert #

19099

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

02/24/2028

**Design Type**

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

12/20/2029

**Design Type**

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

09/18/2029

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/16/2029

#### Design Type

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	1982	NBCert #	18379
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/19/2029

#### Design Type

[Safety Relief Valve] 1982  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab (Picaway) on May 6, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Air	NV, UV
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Steam	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Air	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Steam	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Air	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Air	NV, UV

Design Name:	1982 LS, 820000LS	NBCert #	18380
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/18/2029

### Design Type

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Design Name:	2900 (39PV & 39MV pilots - Liquid)	NBCert #	18874
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/24/2028

### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)  
Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V

3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name: 2900 (39PV & 39MV pilots) NBCert # 18863

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/24/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/20/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV

1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV

10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name:	3900 (39PV, 39MV pilots, liquid)	NBCert #	18458
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/16/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV



3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Puffer-Sweiven, LP (PPC)

Nameplate Abbreviation: PSI-CC

Corpus Christi, TX 78408United States

### This Company Manufactures or Assembles:

Design Name: 900 Series (Liquid), 7700, SNC

NBCert #

15499

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/17/2028

### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC

Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.661 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V

1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC

NBCert #

15411

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/17/2028

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids)

NBCert #

15095

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

08/17/2028

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/11/2029

## Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV

6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Qiyao Special Valve (Ningbo Ninghao Machinery Factory) (NYE)

Ningbo City, 315207People's Republic of China

### This Company Manufactures or Assembles:

Design Name:	ARBP-F (12-52 NPS)	NBCert #	02462
Manufacturer/Assembler	Designators	Expiration Date	

Manufacturer UD 08/21/2029

### Design Type

[Buckling Pin Non-reclosing Device] ARBP-F (12-52 NPS)  
Capacity Tests: Sec. UD at National Board Testing Lab on July 13, 2021  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 7.520 Unitless; Certification Provisions: Exceeds Lab Limits (Prev. CC 2397)  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Qiyao Special Valve (Ningbo Ninghao Machinery Factory) {NYE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
12 NPS	12 NPS	63.6 in <sup>2</sup>		0 in	1-285 psi	Air	UD
14 NPS	14 NPS	85.58 in <sup>2</sup>		0 in	1-285 psi	Air	UD
16 NPS	16 NPS	113.46 in <sup>2</sup>		0 in	1-285 psi	Air	UD
18 NPS	18 NPS	155.86 in <sup>2</sup>		0 in	1-285 psi	Air	UD
20 NPS	20 NPS	208.99 in <sup>2</sup>		0 in	1-285 psi	Air	UD
22 NPS	22 NPS	254.83 in <sup>2</sup>		0 in	1-285 psi	Air	UD
24 NPS	24 NPS	305.23 in <sup>2</sup>		0 in	1-285 psi	Air	UD

26 NPS	26 NPS	343.71 in <sup>2</sup>	0 in	1-285 psi	Air	UD
28 NPS	28 NPS	415.98 in <sup>2</sup>	0 in	1-285 psi	Air	UD
30 NPS	30 NPS	498.39 in <sup>2</sup>	0 in	1-285 psi	Air	UD
32 NPS	32 NPS	592.17 in <sup>2</sup>	0 in	1-285 psi	Air	UD
34 NPS	34 NPS	655.44 in <sup>2</sup>	0 in	1-285 psi	Air	UD
36 NPS	36 NPS	763.12 in <sup>2</sup>	0 in	1-285 psi	Air	UD
38 NPS	38 NPS	833.68 in <sup>2</sup>	0 in	1-285 psi	Air	UD
40 NPS	40 NPS	930.99 in <sup>2</sup>	0 in	1-285 psi	Air	UD
42 NPS	42 NPS	1033.68 in <sup>2</sup>	0 in	1-285 psi	Air	UD
44 NPS	44 NPS	1142.54 in <sup>2</sup>	0 in	1-285 psi	Air	UD
46 NPS	46 NPS	1255.97 in <sup>2</sup>	0 in	1-285 psi	Air	UD
48 NPS	48 NPS	1374.77 in <sup>2</sup>	0 in	1-285 psi	Air	UD
50 NPS	50 NPS	1498.93 in <sup>2</sup>	0 in	1-285 psi	Air	UD
52 NPS	52 NPS	1628.47 in <sup>2</sup>	0 in	1-285 psi	Air	UD

Design Name: ARBP-F (2-10 NPS) NBCert # 01786

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	08/21/2029

#### Design Type

[Buckling Pin Non-reclosing Device] ARBP-F (2-10 NPS)  
Capacity Tests: Sec. UD at National Board Testing Lab on March 4, 2019  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value:36.820 Unitless; Certification Provisions: Exceeds Lab Limits (Prev. CC 2397)  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Qiyao Special Valve (Ningbo Ninghao Machinery Factory) {NYE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS	10 NPS	44.9 in <sup>2</sup>			1-285 psi	Air	UD
2 NPS	2 NPS	1.53 in <sup>2</sup>			10-285 psi	Air	UD
2.5 NPS	2.5 NPS	2.02 in <sup>2</sup>			10-285 psi	Air	UD
3 NPS	3 NPS	3.9 in <sup>2</sup>			10-285 psi	Air	UD
4 NPS	4 NPS	6.35 in <sup>2</sup>			10-285 psi	Air	UD
6 NPS	6 NPS	16.8 in <sup>2</sup>			1-285 psi	Air	UD
8 NPS	8 NPS	29.28 in <sup>2</sup>			1-285 psi	Air	UD

## Quadco, LLC (QUA)

Brighton, CO 80603United States

**This Company Manufactures or Assembles:**

Design Name: 459/462		NBCert # 37112
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/15/2027
Design Type		
[Safety Relief Valve] 459/462 Capacity Tests: Sec. UV at National Board Testing Lab on February 17, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.811 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Air	UV
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Air	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Steam	UV

Design Name: 459/462 liquids		NBCert # 37101
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/14/2027
Design Type		
[Relief Valve] 459/462 liquids Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.566 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Water	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Water	UV
0.5-1.5 NPS	1-2.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Water	UV
1-2 NPS	1.5-2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Water	UV

Design Name: 526	NBCert # 37224
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/19/2027

#### Design Type

[Safety Relief Valve] 526  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 22, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Air	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-2900 psi	Steam	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Air	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Air	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-2900 psi	Steam	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Steam	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Air	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Steam	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Air	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Steam	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Air	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Steam	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Air	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Steam	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Air	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Steam	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Air	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Steam	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Air	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Steam	UV



Design Name:	526 (Liquids)	NBCert #	37235
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/19/2027

#### Design Type

[Relief Valve] 526 (Liquids)  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on January 2, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.579 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Water	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Water	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Water	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Water	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.6698 in	15-1850 psi	Water	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Water	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Water	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Water	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.249 in	15-1038.5 psi	Water	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Water	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-914 psi	Water	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Water	UV

Design Name:	526D	NBCert #	37246
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/19/2027

#### Design Type

[Safety Relief Valve] 526D  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.990 SCFM/PSIA; (alternate medium): 5.590 PPH/PSIA  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-10878 psi	Air	UV

Design Name: 526D Liquids			NBCert # 37257				
Manufacturer/Assembler		Designators		Expiration Date			
Assembler		UV		04/19/2027			
Design Type							
[Relief Valve] 526D Liquids Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.110 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH & Co. KG {LES}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in²	[D] 0.551 in	0.0551 in	15-10878 psi	Water	UV

R. Conrader Company (RCO)		Nameplate Abbreviation: R.CONRADER	
Erie, PA 16506United States			

**This Company Manufactures or Assembles:**

Design Name: SRH 250			NBCert #		13598		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			UV			01/21/2027	
Design Type							
[Safety Relief Valve] SRH 250 Capacity Tests: Sec. UV at National Board Testing Lab on March 11, 2005 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.720 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: R. Conrader Company {RCO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.375 NPS		0.049 in²	0.25 in	0.138 in	25-350 psi	Air	UV

Design Name: SRH 375			NBCert # 13600	
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UV		01/21/2027

**Design Type**

[Safety Relief Valve] SRH 375  
Capacity Tests: Sec. UV at National Board Testing Lab on March 11, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.670 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: R. Conrader Company {RCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.5 NPS		0.11 in <sup>2</sup>	0.375 in	0.15 in	50-350 psi	Air	UV

Design Name:	SRH 580	NBCert #	13576
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/21/2027

**Design Type**

[Safety Relief Valve] SRH 580  
Capacity Tests: Sec. UV at National Board Testing Lab on March 11, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.330 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: R. Conrader Company {RCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS		0.262 in <sup>2</sup>	0.578 in	0.144 in	25-300 psi	Air	UV

Design Name:	SRS250	NBCert #	13611
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/21/2027

**Design Type**

[Safety Relief Valve] SRS250  
Capacity Tests: Sec. UV at National Board Testing Lab on February 10, 2017  
Certified Value: 2.206 PPH/PSIA  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: R. Conrader Company {RCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.375 NPS		0.049 in <sup>2</sup>	[N/A] 0.25 in	0.14 in	25-60 psi	Steam	UV

Design Name:	SRV 187	NBCert #	13509
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

03/10/2027

**Design Type**

[Safety Relief Valve] SRV 187  
Capacity Tests: Sec. UV at National Board Testing Lab on January 28, 2003  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.410 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: R. Conrader Company {RCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.25 NPS		0.027 in <sup>2</sup>	0.187 in	0.08 in	25-250 psi	Air	UV

Design Name: SRV 250 NBCert # 13510

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

05/19/2027

**Design Type**

[Safety Relief Valve] SRV 250  
Capacity Tests: Sec. UV at National Board Testing Lab on January 28, 2003  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.737 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: R. Conrader Company {RCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.375 NPS		0.049 in <sup>2</sup>	0.25 in	0.14 in	25-450 psi	Air	UV

Design Name: SRV 390 NBCert # 13521

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/21/2027

**Design Type**

[Safety Relief Valve] SRV 390  
Capacity Tests: Sec. UV at National Board Testing Lab on January 28, 2003  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.550 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: R. Conrader Company {RCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.5 NPS		0.119 in <sup>2</sup>	0.39 in	0.12 in	25-300 psi	Air	UV

Design Name: SRV 530 NBCert # 13532

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/21/2027

### Design Type

[Safety Relief Valve] SRV 530  
Capacity Tests: Sec. UV at National Board Testing Lab on April 29, 2003  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.350 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: R. Conrader Company {RCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS		0.221 in <sup>2</sup>	0.53 in	0.2 in	25-300 psi	Air	UV

Design Name: SRV 765 NBCert # 13543

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

01/21/2027

### Design Type

[Safety Relief Valve] SRV 765  
Capacity Tests: Sec. UV at National Board Testing Lab on April 29, 2003  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.130 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: R. Conrader Company {RCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS		0.46 in <sup>2</sup>	0.765 in	0.225 in	25-300 psi	Air	UV

## Ratermann Cryogenics (RAT)

Humble, TX 77396United States

### This Company Manufactures or Assembles:

Design Name: 06388./06418./06383./06413.2312/2314/2320 NBCert # 91101

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV

04/26/2029

### Design Type

[Safety Relief Valve] 06388./06418./06383./06413.2312/2314/2320  
Capacity Tests: Sec. UV at unknown lab on August 27, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.550 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	2 NPS	389.1 mm²	23 mm	4.8 mm	29-725 psi	Air	UV
Design Name: 06388/06418/06383/06413.0704/0706NBCert # 91011							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			04/26/2029	
Design Type							
[Safety Relief Valve] 06388/06418/06383/06413.0704/0706 Capacity Tests: Sec. UV at unknown lab on July 30, 1999 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.862 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	38.5 mm²	7 mm	1.5 mm	48-725 psi	Air	UV
Design Name: 06388/06418/06383/06413.1004/1006NBCert # 91088							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			04/26/2029	
Design Type							
[Safety Relief Valve] 06388/06418/06383/06413.1004/1006 Capacity Tests: Sec. UV at unknown lab on July 30, 1999 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.517 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	1 NPS	86.6 mm²	10.5 mm	2.2 mm	42-725 psi	Air	UV
Design Name: 06388/06418/06383/06413.1510NBCert # 91077							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			04/26/2029	
Design Type							
[Safety Relief Valve] 06388/06418/06383/06413.1510 Capacity Tests: Sec. UV at unknown lab on July 30, 1999 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.769 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: HEROSE G.M.B.H. ARMATUREN UND METALLE {HEG}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS	176.6 mm <sup>2</sup>	15 mm	2.6 mm	48-725 psi	Air	UV

## Renew Valve and Machine Co. (REN)

Carleton, MI 48117United States

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/27/2026

### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV

2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 09/15/2029

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 10/05/2029



## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35 NBCert # 18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/27/2026

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series, Liquid			NBCert # 18717	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		07/27/2026

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2

NBCert #

18144

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/15/2029

## Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 09/15/2029

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 3.256 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/15/2029

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/18/2029

#### Design Type

[Relief Valve] 19110M & 19110H (Liquids)  
 Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 2.264 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV

0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

## RICHARDS INDUSTRIALS (RIN)

Cincinnati, OH 45209United States

### This Company Manufactures or Assembles:

Design Name: SSRV-81		NBCert # 02158	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	12/16/2026
Design Type			
[Safety Relief Valve] SSRV-81 Capacity Tests: Sec. UV at National Board Testing Lab on February 11, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.570 SCFM/PSIA; (alternate medium): 4.410 PPH/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: RICHARDS INDUSTRIALS {RIN}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 in	0.5-1 in	0.064 in <sup>2</sup>	0.37 in	0.043 in	15-500 psi	Steam	UV
0.5 in	0.5-1 in	0.064 in <sup>2</sup>	0.37 in	0.043 in	15-500 psi	Air	UV
0.5-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-500 psi	Air	UV
0.5-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-500 psi	Steam	UV
0.75-1 in	0.75-1 in	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-500 psi	Air	UV
0.75-1 in	0.75-1 in	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-500 psi	Steam	UV

Design Name: SSRV-81 (Liquid)		NBCert # 02169	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/15/2027
Design Type			
[Safety Relief Valve] SSRV-81 (Liquid) Capacity Tests: Sec. UV at National Board Testing Lab on December 17, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.210 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: RICHARDS INDUSTRIALS {RIN}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 in	0.5-1 in	0.064 in <sup>2</sup>	0.37 in	0.043 in	15-500 psi	Water	UV
0.5-1 NPS	0.5-1 NPS	0.064 in <sup>2</sup>	0.394 in	0.043 in	15-500 psi	Water	UV

0.75-1 in      0.75-1 in      0.064 in²      0.394 in      0.043 in      15-500 psi      Water      UV

Design Name:    SSRV-83		NBCert #      02192
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/15/2027
Design Type		
[Safety Relief Valve] SSRV-83 Capacity Tests: Sec. UV at National Board Testing Lab on December 17, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.690 SCFM/PSIA; (alternate medium): 15.990 PPH/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: RICHARDS INDUSTRIALS {RIN}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.427 in²	0.984 in	0.139 in	15-232 psi	Air	UV
1.5 NPS	2 NPS	0.427 in²	0.984 in	0.139 in	15-232 psi	Steam	UV

Design Name:    SSRV-83 (Liquid)		NBCert #      02204
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/18/2028
Design Type		
[Safety Relief Valve] SSRV-83 (Liquid) Capacity Tests: Sec. UV at National Board Testing Lab on August 3, 2021 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 8.150 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: RICHARDS INDUSTRIALS {RIN}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.427 in²	0.984 in	0.139 in	15-232 psi	Water	UV

Design Name:    SSRV-83X		NBCert #      02170
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	12/16/2026
Design Type		
[Safety Relief Valve] SSRV-83X Capacity Tests: Sec. UV at National Board Testing Lab on February 11, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.990 SCFM/PSIA; (alternate medium): 5.590 PPH/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: RICHARDS INDUSTRIALS {RIN}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	1.5 NPS	0.127 in²	0.512 in	0.079 in	15-232 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.127 in²	0.512 in	0.079 in	15-232 psi	Steam	UV

Design Name:	SSRV-83X (Liquid)	NBCert #	02181
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/18/2028

Design Type
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[Safety Relief Valve] SSRV-83X (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on October 29, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.407 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: RICHARDS INDUSTRIALS {RIN}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	1.5 NPS	0.127 in²	0.512 in	0.079 in	15-142 psi	Water	UV

Design Name:	SSRV-88	NBCert #	02383
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/04/2028

Design Type
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[Safety Relief Valve] SSRV-88  
Capacity Tests: Sec. UV at National Board Testing Lab on June 9, 2022  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.747 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: RICHARDS INDUSTRIALS {RIN}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.644 in²	0.906 in	0.256 in	15-90 psi	Steam	UV
1.5 NPS	2 NPS	0.644 in²	0.906 in	0.256 in	15-232 psi	Air	UV
2 NPS	3 NPS	1.667 in²	1.457 in	0.416 in	15-90 psi	Steam	UV
2 NPS	3 NPS	1.667 in²	1.457 in	0.416 in	15-232 psi	Air	UV
2 NPS	3 NPS	2.576 in²	1.811 in	0.512 in	15-90 psi	Steam	UV
2 NPS	3 NPS	2.576 in²	1.811 in	0.512 in	15-232 psi	Air	UV

Design Name:	SSRV-88 (Liquid)	NBCert #	01449
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/18/2028

**Design Type**

[Safety Relief Valve] SSRV-88 (Liquid)  
 Capacity Tests: Sec. UV at National Board Testing Lab on November 15, 2021  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.546 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: RICHARDS INDUSTRIALS {RIN}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.644 in <sup>2</sup>	0.906 in	0.256 in	15-232 psi	Water	UV
2 NPS	3 NPS	1.667 in <sup>2</sup>	1.457 in	0.416 in	15-232 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.512 in	15-232 psi	Water	UV

**S & S Valve Service, Inc. (SSV)**

Metuchen, NJ 08840 United States

**This Company Manufactures or Assembles:**

Design Name: 119 Series

NBCert #

11361

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/09/2025

**Design Type**

[Safety Valve] 119 Series  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on March 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Air	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	NV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	V



4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	V
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Air	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	V
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Air	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	V
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Air	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	V

Design Name: 500 Series NBCert # 11462

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/01/2025

#### Design Type

[Safety Valve] 500 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on June 12, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.861 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Air	UV
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Steam	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Steam	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Air	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Steam	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Air	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Steam	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Air	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Steam	UV

# S.C. Emerson S.R.L. (EMN)

Nameplate Abbreviation: RCL

Cluj-Napoca, 400641Romania

## This Company Manufactures or Assembles:

Design Name:	243/249/443/449/546/843/849/943/5046/5049/8043/8049	NBCert #	01292
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/02/2028

### Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049  
 Capacity Tests: Sec. UV at unknown lab on August 8, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name:	253/259/453/459/853/859/953/959/5059/8053/8059	NBCert #	01304
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/02/2028

## Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.627 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/506  
6/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	05/02/2028

## Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069  
Capacity Tests: Sec. UV at unknown lab on July 30, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV

8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids)				NBCert # 01337	
Manufacturer/Assembler		Designators		Expiration Date	
Manufacturer		UV		05/02/2028	

Design Type					
[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)					
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997					
Method of Establishing Relieving Capacity: Flow Capacity, K					
Certified Value: 0.767 Unitless					
Media - Test: Liquid; Certified: Liquid					
Set Pressure Definition: First Steady Stream					
Blowdown Characteristics: Fixed					
Flow Area Configuration: Nozzle/Full Lift					
Designed by: Emerson Automation Solutions Final Control US LP {AGC}					

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids)				NBCert # 01326	
Manufacturer/Assembler		Designators		Expiration Date	
Manufacturer		UV		05/02/2028	

Design Type					
[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)					
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997					
Method of Establishing Relieving Capacity: Flow Capacity, K					
Certified Value: 0.491 Unitless					
Media - Test: Liquid; Certified: Liquid					
Set Pressure Definition: First Steady Stream					
Blowdown Characteristics: Fixed					
Flow Area Configuration: Curtain Area					
Designed by: Emerson Automation Solutions Final Control US LP {AGC}					

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name:	463/469/566/863/869/963/969/5066/5069 (Liquids)	NBCert #	01348
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	10/11/2028
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#### Design Type

[Pilot Operated Pressure Relief Valve] 463/469/566/863/869/963/969/5066/5069 (Liquids)  
Capacity Tests: Sec. UV at Crosby Valve, LLC on August 27, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.712 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-7600 psi	Water	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-7600 psi	Water	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.315 in	15-7600 psi	Water	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-7600 psi	Water	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-7600 psi	Water	UV

8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-7600 psi	Water	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-7600 psi	Water	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-7600 psi	Water	UV

Design Name: 81, 81P, 83, 84 NBCert # 01089

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/14/2028

#### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 81P (Liquids) NBCert # 01102

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 07/09/2027

#### Design Type

[Relief Valve] 81P (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.720 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: 93% of pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V

0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC NBCert # 15499

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/07/2026

### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC NBCert # 15411

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/07/2026

## Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: BP NBCert # 15501

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	07/09/2027

## Design Type

[Safety Relief Valve] BP  
 Capacity Tests: Sec. UV at Crosby Valve, LLC on August 24, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.841 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.0539 in <sup>2</sup>	[#4] 0.262 in	0.06 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.0929 in <sup>2</sup>	[#5] 0.344 in	0.085 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.114 in <sup>2</sup>	[#5A] 0.381 in	0.098 in	50-3000 psi	Air	UV
0.75-1 NPS	1 NPS	0.1364 in <sup>2</sup>	[#6] 0.417 in	0.112 in	50-3000 psi	Air	UV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/07/2026



## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name:	JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Liquids) (Restricted lift version of Certification 15095)	NBCert #	01393
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UV

01/14/2028

#### Design Type

[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Liquids) (Restricted lift version of Certification 15095)

Capacity Tests: Sec. NV, UV, V at unknown lab on October 14, 2015

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.656 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Restricted Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	UV, V

8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	UV, V

Design Name:	JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512)	NBCert #	01382
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	01/14/2028
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Design Type
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[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512)  
 Capacity Tests: Sec. UV at unknown lab on October 13, 2015  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.870 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Restricted Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.6949 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Air	UV

Design Name:	JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB	NBCert #	15208
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	04/07/2026
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Design Type
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[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV

6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

Design Name: JOS-E-RL/JBS-E-RL/JDS-E-RL (Restricted Lift version of cert 15208) NBCert # 01045

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/14/2028

#### Design Type

[Safety Relief Valve] JOS-E-RL/JBS-E-RL/JDS-E-RL (Restricted Lift version of cert 15208)

Capacity Tests: Sec. UV at unknown lab on May 26, 2015

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.865 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Restricted Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-15000 psi	Air	UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.08 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.08 in	15-15000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.08 in	15-15000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.08 in	15-2000 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.08 in	15-15000 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.08 in	15-2000 psi	Steam	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.099 in	15-15000 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.099 in	15-2000 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.127 in	15-10000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.127 in	15-2000 psi	Steam	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.152 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.152 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.18 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.18 in	15-3000 psi	Air	UV

3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.189 in	15-2000 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.189 in	15-5000 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.213 in	15-2000 psi	Steam	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.213 in	15-5000 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.234 in	15-1480 psi	Steam	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.234 in	15-3000 psi	Air	UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.255 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.255 in	15-2250 psi	Steam	UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.284 in	15-1480 psi	Steam	UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.284 in	15-3000 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.373 in	15-1000 psi	Steam	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.373 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	0.373 in	15-2250 psi	Air	UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	0.373 in	15-2250 psi	Steam	UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	0.449 in	15-2250 psi	Air	UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	0.449 in	15-2250 psi	Steam	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.373 in	15-1480 psi	Steam	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.373 in	15-3000 psi	Air	UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	0.424 in	15-2250 psi	Air	UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	0.424 in	15-2250 psi	Steam	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.449 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.449 in	15-1480 psi	Steam	UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	0.572 in	15-2250 psi	Air	UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	0.572 in	15-2250 psi	Steam	UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.572 in	15-740 psi	Air	UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.572 in	15-740 psi	Steam	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	0.592 in	15-740 psi	Air	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	0.592 in	15-740 psi	Steam	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	0.731 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	0.731 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	0.933 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	0.933 in	15-325 psi	Steam	UV

Design Name: Kunkle 337

NBCert # 36278

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/17/2030

**Design Type**

[Safety Relief Valve] Kunkle 337  
 Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.860 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name: Kunkle 6000, 6252 Series NBCert # 36324

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/17/2030

**Design Type**

[Safety Valve] Kunkle 6000, 6252 Series  
 Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV

2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

## Samshin Limited (SAL)

Cheonan-si, Chungcheongnam-do, 31061 Republic of Korea

### This Company Manufactures or Assembles:

Design Name: 150SRV 03/04		NBCert # 58058	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV, -Class 3	04/27/2028
Design Type			
[Safety Relief Valve] 150SRV 03/04			
Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on April 27, 2022			
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method			
Certified Value: 330.00 SCFM			
Media - Test: Air/Gas; Certified: Air			
Set Pressure Definition: Pop			
Blowdown Characteristics: Fixed			
Flow Area Configuration: Curtain Area			
Designed by: Samshin Limited {SAL}			
Comments: 2 valves tested - represents all valves produced for this type			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	4 NPS				1.84-0 psi	Air	NV, -Class 3



Design Name: 150SRV04		NBCert # 58069
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV, -Class 3	06/28/2029
Design Type		
[Vacuum Relief Valve] 150SRV04 Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on July 26, 2022 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:290.00 SCFM Media - Test: Air/Gas; Certified: Air Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Samshin Limited {SAL}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
	4 NPS		4.02 in	0.6 in	-0.25-0 psi	Air	NV, -Class 3

Design Name: 150SRV08-1 and 150SRV08-2		NBCert # 58070
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV, -Class 3	09/23/2029
Design Type		
[Relief Valve] 150SRV08-1 and 150SRV08-2 Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on September 28, 2023 Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method Certified Value:411.00 GPM Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Samshin Limited {SAL} Comments: 1 psi overpressure		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
8 NPS	6 NPS	10.197 in <sup>2</sup>		0.31 in	2.54-2.54 psi	Water	NV, -Class 3

Design Name: SRNBF1401EH		NBCert # 58047
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV, -Class 3	12/11/2026
Design Type		
[Safety Relief Valve] SRNBF1401EH Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on December 11, 2020 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.681 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: Start-to-Leak Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Samshin Limited {SAL}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.5 NPS	2 NPS	0.308 in <sup>2</sup>	0.626 in	0.187 in	130-130 psi	Water	NV, -Class 3

Design Name: SRNDF1540GH			NBCert # 58036				
Manufacturer/Assembler		Designators		Expiration Date			
Manufacturer		NV, -Class 3		05/20/2027			
Design Type							
[Safety Relief Valve] SRNDF1540GH Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on May 20, 2021 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.760 SCFM/PSIA Media - Test: Air/Gas; Certified: Air Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Samshin Limited {SAL}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-0.75 NPS	1 NPS	0.11 in²	0.374 in	0.101 in	128-498 psi	Air	NV, -Class 3

Scallon Controls, Inc. (SCN)		Nameplate Abbreviation: SCI	
Beaumont, TX 77705United States			

### This Company Manufactures or Assembles:

Design Name: 243/249/443/449/546/843/849/943/5046/5049/8043/8049		NBCert # 01292					
Manufacturer/Assembler		Designators	Expiration Date				
Assembler		UV	06/27/2026				
Design Type							
[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049 Capacity Tests: Sec. UV at unknown lab on August 8, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in²	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in²	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in²	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in²	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in²	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in²	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in²	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in²	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in²	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV

4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 253/259/453/459/853/859/953/959/5059/8053/8059 NBCert # 01304

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/27/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059

Capacity Tests: Sec. UV at unknown lab on July 31, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.627 Unitless

Media - Test: Air/Gas; Certified: Air, Gas

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Curtain Area

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/5066/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/27/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069

Capacity Tests: Sec. UV at unknown lab on July 30, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.860 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/27/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.767 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/27/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.491 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 81, 81P, 83, 84 NBCert # 01089

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/27/2026

## Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
 Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.816 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
 Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 81P (Liquids)

NBCert #

01102

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/27/2026

## Design Type

[Relief Valve] 81P (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.720 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: 93% of pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC		NBCert #	15499
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	06/27/2026
Design Type			
[Relief Valve] 900 Series (Liquid), 7700, SNC Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.661 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC		NBCert #	15411
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	06/27/2026
Design Type			
[Safety Relief Valve] 900 Series, 7700, SNC Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Emerson Automation Solutions Final Control US LP {AGC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV

0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, NBCert # 15006 HSA, HSB, HSC, HSP)

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 06/27/2026

#### Design Type

[Safety Valve] H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, HSA, HSB, HSC, HSP)  
Capacity Tests: Sec. UV, V at unknown lab on September 1, 1939  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-500 psi	Steam	UV, V
0.75 NPS	1.5 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-500 psi	Steam	UV, V
1-1.5 NPS	2 - 3 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-3100 psi	Steam	UV, V
1-2 NPS	2.5, 3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-3100 psi	Steam	UV, V
1.5-2 NPS	3, 4, 6 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-5000 psi	Steam	UV, V
1.5 NPS	3 NPS	0.865 in <sup>2</sup>	1.05 in	0.262 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.994 in <sup>2</sup>	[H2] 1.125 in	0.281 in	15-3100 psi	Steam	UV, V
2-3 NPS	3, 4, 6 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-5000 psi	Steam	UV, V
2 NPS	4 NPS	1.431 in <sup>2</sup>	[J2] 1.35 in	0.338 in	15-3100 psi	Steam	UV, V
2.5-3 NPS	4, 6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-6000 psi	Steam	UV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-6000 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.476 in	15-3100 psi	Steam	UV, V
3 NPS	6 NPS	3.341 in <sup>2</sup>	[L2] 2.062 in	0.516 in	15-3100 psi	Steam	UV, V
3-4 NPS	6, 8 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-6000 psi	Steam	UV, V
3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.563 in	15-6000 psi	Steam	UV, V
4 NPS	6 NPS	4.341 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-3100 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.712 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	UV, V



6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.937 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q2] 3.95 in	0.988 in	15-3100 psi	Steam	UV, V
6 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-3100 psi	Steam	UV, V
6 NPS	10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.239 in	15-3100 psi	Steam	UV, V
8 NPS	10, 12 NPS	26 in <sup>2</sup>	[T] 5.75 in	1.437 in	15-500 psi	Steam	UV, V
8 NPS	12, 14 NPS	28.274 in <sup>2</sup>	6 in	1.5 in	15-2000 psi	Steam	UV, V
10 NPS	14 NPS	44.18 in <sup>2</sup>	7.5 in	1.875 in	15-500 psi	Steam	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	9 in	2.25 in	15-500 psi	Steam	UV, V
14 NPS	18 NPS	86.59 in <sup>2</sup>	10.5 in	2.625 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	95.21 in <sup>2</sup>	11.01 in	2.753 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	114.04 in <sup>2</sup>	12.05 in	3.02 in	15-500 psi	Steam	UV, V
18 NPS	24 NPS	143.14 in <sup>2</sup>	13.5 in	3.375 in	15-500 psi	Steam	UV, V
20 NPS	24 NPS	176.71 in <sup>2</sup>	15 in	3.75 in	15-500 psi	Steam	UV, V

Design Name: HL, HSL NBCert # 15589

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 03/01/2029

#### Design Type

[Safety Valve] HL, HSL  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on November 3, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	1.5 NPS	0.339 in <sup>2</sup>	[F] 0.657 in	0.164 in	15-725 psi	Steam	UV, V
1.25-2 NPS	1.5 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.21 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.868 in <sup>2</sup>	[H] 1.051 in	0.263 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.327 in <sup>2</sup>	[J] 1.3 in	0.325 in	15-725 psi	Steam	UV, V
2-3 NPS	3-4 NPS	2.046 in <sup>2</sup>	[K] 1.614 in	0.404 in	15-725 psi	Steam	UV, V
2.5-4 NPS	4-6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-725 psi	Steam	UV, V
3 NPS	4-6 NPS	3.955 in <sup>2</sup>	[M] 2.244 in	0.561 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	4.831 in <sup>2</sup>	[N] 2.48 in	0.62 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	7.031 in <sup>2</sup>	[P] 2.992 in	0.748 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[QQ] 3.75 in	0.937 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	12.174 in <sup>2</sup>	[Q] 3.937 in	0.984 in	15-725 psi	Steam	UV, V

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/27/2026

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/27/2026

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Liquids) (Restricted lift version of Certification 15095) NBCert # 01393

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/27/2026

#### Design Type

[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Liquids) (Restricted lift version of Certification 15095)  
Capacity Tests: Sec. NV, UV, V at unknown lab on October 14, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Water	UV, V

1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Water	UV, V

Design Name:	JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512)	NBCert #	01382
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	06/27/2026
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#### Design Type

[Safety Relief Valve] JLT-JOS-RL/JLT-JBS-RL/JLT-JDS-RL (Restricted Lift version of Certification 15512)  
Capacity Tests: Sec. UV at unknown lab on October 13, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.082 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.103 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.131 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.6949 in <sup>2</sup>	0.892 in	0.137 in	15-2500 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.164 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.21 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.251 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.313 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.351 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.386 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	0.468 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	0.493 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.616 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.741 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.944 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/27/2026

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV

1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

Design Name:	JOS-E-RL/JBS-E-RL/JDS-E-RL (Restricted Lift version of cert 15208)	NBCert #	01045
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	06/27/2026
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#### Design Type

[Safety Relief Valve] JOS-E-RL/JBS-E-RL/JDS-E-RL (Restricted Lift version of cert 15208)

Capacity Tests: Sec. UV at unknown lab on May 26, 2015

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.865 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Restricted Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-15000 psi	Air	UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.08 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.08 in	15-15000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.08 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.08 in	15-15000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.08 in	15-2000 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.08 in	15-15000 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.08 in	15-2000 psi	Steam	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.099 in	15-15000 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.099 in	15-2000 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.127 in	15-10000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.127 in	15-2000 psi	Steam	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.152 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.152 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.18 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.18 in	15-3000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.189 in	15-2000 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.189 in	15-5000 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.213 in	15-2000 psi	Steam	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.213 in	15-5000 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.234 in	15-1480 psi	Steam	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.234 in	15-3000 psi	Air	UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.255 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.255 in	15-2250 psi	Steam	UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.284 in	15-1480 psi	Steam	UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.284 in	15-3000 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.373 in	15-1000 psi	Steam	UV

6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	0.373 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	0.373 in	15-2250 psi	Air	UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	0.373 in	15-2250 psi	Steam	UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	0.449 in	15-2250 psi	Air	UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	0.449 in	15-2250 psi	Steam	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.373 in	15-1480 psi	Steam	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	0.373 in	15-3000 psi	Air	UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	0.424 in	15-2250 psi	Air	UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	0.424 in	15-2250 psi	Steam	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.449 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	0.449 in	15-1480 psi	Steam	UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	0.572 in	15-2250 psi	Air	UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	0.572 in	15-2250 psi	Steam	UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.572 in	15-740 psi	Air	UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	0.572 in	15-740 psi	Steam	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	0.592 in	15-740 psi	Air	UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	0.592 in	15-740 psi	Steam	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	0.731 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	0.731 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	0.933 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	0.933 in	15-325 psi	Steam	UV

## Seetru Limited (SEE)

Nameplate Abbreviation: SEE

Bristol, BS1 6UTUnited Kingdom

### This Company Manufactures or Assembles:

Design Name: 10125, 10725		NBCert #	06679
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	02/14/2029	
Design Type			
[Safety Relief Valve] 10125, 10725 Capacity Tests: Sec. UV at National Board Testing Lab on November 18, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:11.300 SCFM/PSIA Media - ; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2.5 NPS		490 mm <sup>2</sup>	25 mm		1.1-12 bar	Air	UV



Design Name: 319 (In Line Type)		NBCert #	06590
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	02/14/2029
Design Type			
[Safety Relief Valve] 319 (In Line Type) Capacity Tests: Sec. UV at National Board Testing Lab on May 17, 2005 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.040 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.5 NPS		71 mm <sup>2</sup>	0.373 in		195-725 psi	Air	UV

Design Name: 319000488		NBCert #	06703
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	02/14/2029
Design Type			
[Safety Relief Valve] 319000488 Capacity Tests: Sec. UV at National Board Testing Lab on March 29, 2012 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.230 SCFM/PSIA Media - ; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	.75, 1 NPS	133.6 mm <sup>2</sup>	13.04 mm		16.2-26.8 bar	Air	UV

Design Name: 32931		NBCert #	06714
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	02/14/2029
Design Type			
[Safety Relief Valve] 32931 Capacity Tests: Sec. UV at National Board Testing Lab on November 18, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.700 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.75 NPS	0.75 NPS	0.0438 in <sup>2</sup>	0.236 in	0.059 in	768-5365 psi	Air	UV

Design Name: 61118, 61718, 62118, 62718		NBCert #	06646
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	02/15/2029
Design Type			
[Safety Relief Valve] 61118, 61718, 62118, 62718 Capacity Tests: Sec. UV at National Board Testing Lab on November 18, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 6.040 SCFM/PSIA Media - ; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS		254.5 mm <sup>2</sup>	18 mm		2.1-36 bar	Air	UV

Design Name: 61120, 61720, 62120, 62720		NBCert #	06657
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	02/16/2029
Design Type			
[Safety Relief Valve] 61120, 61720, 62120, 62720 Capacity Tests: Sec. UV at National Board Testing Lab on November 18, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 7.320 SCFM/PSIA Media - ; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS		314.1 mm <sup>2</sup>	20 mm		28-256 psi	Air	UV

Design Name: 63110, 64110, 65110, 63710, 64710, 65710NBCert # 06523		
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2029
Design Type		
<p>[Safety Relief Valve] 63110, 64110, 65110, 63710, 64710, 65710 Capacity Tests: Sec. UV at National Board Testing Lab on August 17, 2005 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.710 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-0.75 NPS	.75 NPS	70.9 mm <sup>2</sup>	9.5 mm	3.5 mm	22.5-800 psi	Air	UV

Design Name: 63113, 64113, 65113, 63713, 64713, 65713NBCert # 06545		
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2029
Design Type		
<p>[Safety Relief Valve] 63113, 64113, 65113, 63713, 64713, 65713</p> <p>Capacity Tests: Sec. UV at National Board Testing Lab on May 13, 2005</p> <p>Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method</p> <p>Certified Value: 3.470 SCFM/PSIA</p> <p>Media - Test: Air/Gas; Certified: Air, Gas</p> <p>Set Pressure Definition: Initial Audible Discharge</p> <p>Blowdown Characteristics: Fixed</p> <p>Flow Area Configuration: Nozzle/Full Lift</p> <p>Designed by: Seetru Limited {SEE}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	147.4 mm <sup>2</sup>	13.7 mm	5.7 mm	20-710 psi	Air	UV

Design Name: 63118, 64118, 65118, 65718		NBCert # 06556
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2029
Design Type		
[Safety Relief Valve] 63118, 64118, 65118, 65718 Capacity Tests: Sec. UV at National Board Testing Lab on August 17, 2005 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.600 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	1.5 NPS	227 mm <sup>2</sup>	17 mm		34.8-507 psi	Air	UV

Design Name: 63120, 64120, 65120, 63720, 64720, 65720NBCert # 06567		
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2029
Design Type		
<p>[Safety Relief Valve] 63120, 64120, 65120, 63720, 64720, 65720</p> <p>Capacity Tests: Sec. UV at National Board Testing Lab on May 12, 2005</p> <p>Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method</p> <p>Certified Value: 7.770 SCFM/PSIA</p> <p>Media - Test: Air/Gas; Certified: Air, Gas</p> <p>Set Pressure Definition: Initial Audible Discharge</p> <p>Blowdown Characteristics: Fixed</p> <p>Flow Area Configuration: Nozzle/Full Lift</p> <p>Designed by: Seetru Limited {SEE}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	2 NPS	314 mm <sup>2</sup>	20 mm	5 mm	43-507.5 psi	Air	UV

Design Name: 63125, 64125, 65125, 63725, 64725, 65725NBCert # 06578		
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2029
Design Type		
<p>[Safety Relief Valve] 63125, 64125, 65125, 63725, 64725, 65725</p> <p>Capacity Tests: Sec. UV at National Board Testing Lab on May 12, 2005</p> <p>Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method</p> <p>Certified Value:12.260 SCFM/PSIA</p> <p>Media - Test: Air/Gas; Certified: Air, Gas</p> <p>Set Pressure Definition: Initial Audible Discharge</p> <p>Blowdown Characteristics: Fixed</p> <p>Flow Area Configuration: Nozzle/Full Lift</p> <p>Designed by: Seetru Limited {SEE}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	2 NPS	490.4 mm <sup>2</sup>	25 mm	9.5 mm	82-435 psi	Air	UV

Design Name: 81106,81706,84106,84706,81108,81708,81188,81788,84188,84788			NBCert #	06501
Manufacturer/Assembler		Designators		Expiration Date
Manufacturer		UV		02/14/2029
Design Type				
[Safety Relief Valve] 81106,81706,84106,84706,81108,81708,81188,81788,84188,84788				
Capacity Tests: Sec. UV at National Board Testing Lab on August 18, 2005				
Method of Establishing Relieving Capacity: Flow Capacity, K				
Certified Value: 0.748 Unitless				
Media - Test: Air/Gas; Certified: Air, Gas				
Set Pressure Definition: Initial Audible Discharge				
Blowdown Characteristics: Fixed				
Flow Area Configuration: Nozzle/Full Lift				
Designed by: Seetru Limited {SEE}				

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-0.5 NPS		28.3 mm <sup>2</sup>	6 mm	1.5 mm	40.6-522 psi	Air	UV
0.25-0.5 NPS		50.27 mm <sup>2</sup>	8 mm	1.4 mm	43.5-634 psi	Air	UV

Design Name: 81110, 84110, 81710, 84710		NBCert # 06613
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	02/14/2029
Design Type		
<p>[Safety Relief Valve] 81110, 84110, 81710, 84710 Capacity Tests: Sec. UV at National Board Testing Lab on October 18, 2005 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.660 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS		78.54 mm <sup>2</sup>	10 mm	2.1 mm	34.9-738 psi	Air	UV

Design Name: 81113, 84113, 81713, 84713		NBCert #	06602
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	02/14/2029
Design Type			
[Safety Relief Valve] 81113, 84113, 81713, 84713 Capacity Tests: Sec. UV at National Board Testing Lab on August 17, 2005 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.940 SCFM/PSIA Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Seetru Limited {SEE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS		132.7 mm²	13 mm	2.73 mm	40.6-580 psi	Air	UV

Design Name: 81115, 81715, 84115, 84715		NBCert #	06680
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	02/16/2029
Design Type			
[Safety Relief Valve] 81115, 81715, 84115, 84715 Capacity Tests: Sec. UV at National Board Testing Lab on November 18, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 4.000 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Seetru Limited {SEE}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS		0.281 in²	0.598 in	0.15 in	36-580 psi	Air	UV

Sempell GmbH (SML)		Nameplate Abbreviation: SEMPELL	
Korschenbroich, D-41352Germany			

### This Company Manufactures or Assembles:

Design Name: SC & SB (Liquids)		NBCert #	64011
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	09/17/2025

## Design Type

[Relief Valve] SC & SB (Liquids)  
 Capacity Tests: Sec. UV at National Board Testing Lab on March 12, 1992  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.576 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Sempell GmbH {SML}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.124 in	15-6000 psi	Water	UV
1-1.5 NPS	2 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.165 in	15-6000 psi	Water	UV
1.5 NPS	2 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.207 in	15-6000 psi	Water	UV
1.5-2 NPS	2.5 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.266 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.954 in <sup>2</sup>	[H] 1.102 in	0.331 in	15-5000 psi	Water	UV
2-3 NPS	3 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.425 in	15-5000 psi	Water	UV
3 NPS	4 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.508 in	15-5000 psi	Water	UV
3-4 NPS	4 NPS	3.42 in <sup>2</sup>	[L] 2.087 in	0.626 in	15-5000 psi	Water	UV
4 NPS	6 NPS	4.382 in <sup>2</sup>	[M] 2.362 in	0.709 in	15-3705 psi	Water	UV
4 NPS	6 NPS	5.303 in <sup>2</sup>	[N] 2.598 in	0.78 in	15-3705 psi	Water	UV
4 NPS	6 NPS	7.598 in <sup>2</sup>	[P] 3.11 in	0.993 in	15-3190 psi	Water	UV
6 NPS	8 NPS	13.167 in <sup>2</sup>	[Q] 4.094 in	1.228 in	15-3190 psi	Water	UV
6 NPS	8 NPS	19.021 in <sup>2</sup>	[R] 4.921 in	1.476 in	15-2470 psi	Water	UV
8 NPS	10 NPS	31.165 in <sup>2</sup>	[T] 6.299 in	1.89 in	15-1455 psi	Water	UV
10-12 NPS	12, 14 NPS	41.664 in <sup>2</sup>	[T1] 7.283 in	2.185 in	15-1455 psi	Water	UV
10-14 NPS	14, 16 NPS	51.66 in <sup>2</sup>	[U] 8.11 in	2.433 in	15-1160 psi	Water	UV
12-14 NPS	16, 20 NPS	64.399 in <sup>2</sup>	[V] 9.055 in	2.717 in	15-1160 psi	Water	UV
14-16 NPS	20, 24 NPS	88.746 in <sup>2</sup>	[W] 10.63 in	3.189 in	15-915 psi	Water	UV
16-20 NPS	20, 24 NPS	127.007 in <sup>2</sup>	[X] 12.717 in	3.815 in	15-290 psi	Water	UV
20-24 NPS	24, 28 NPS	172.107 in <sup>2</sup>	[Y] 14.803 in	4.441 in	15-290 psi	Water	UV
24-28 NPS	28, 32 NPS	233.545 in <sup>2</sup>	[Z] 17.244 in	5.173 in	15-235 psi	Water	UV

Design Name: SEP

NBCert # 64077

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	V	04/04/2030

## Design Type

[Power Actuated Relief Valve] SEP  
 Capacity Tests: Sec. V at National Board Testing Lab on April 15, 2013  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Power Actuated  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Sempell GmbH {SML}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5-4 NPS	4, 6 NPS	1.758 in <sup>2</sup>	[J1] 1.496 in	0.524 in	15-6000 psi	Steam	V
2.5-4 NPS	4,6 NPS	2.465 in <sup>2</sup>	[K1] 1.772 in	0.62 in	15-6000 psi	Steam	V
2.5-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L] 2.087 in	0.73 in	15-6000 psi	Steam	V
4-6 NPS	6, 8 NPS	4.382 in <sup>2</sup>	[M] 2.362 in	0.827 in	15-6000 psi	Steam	V
4-6 NPS	6, 8 NPS	5.303 in <sup>2</sup>	[N] 2.598 in	0.909 in	15-6000 psi	Steam	V
4-6 NPS	6-10 NPS	7.598 in <sup>2</sup>	[P] 3.071 in	1.075 in	15-2000 psi	Steam	V
6-8 NPS	8-12 NPS	10.987 in <sup>2</sup>	[P1] 3.74 in	1.309 in	15-2000 psi	Steam	V
6-8 NPS	8-12 NPS	13.17 in <sup>2</sup>	[Q] 4.094 in	1.433 in	15-2000 psi	Steam	V
6-8 NPS	8-12 NPS	19.07 in <sup>2</sup>	[R] 4.921 in	1.722 in	15-2000 psi	Steam	V

Design Name: VS99	NBCert # 64066
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV 09/30/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] VS99  
Capacity Tests: Sec. NV, -Class 1 at National Board Testing Lab on December 1, 2009  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Sempell GmbH {SML}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
7 NPS	7 NPS	3.292 in <sup>2</sup>	[K52] 2.047 in	30 mm	2320-2828 psi	Steam	NV
7 NPS	7 NPS	3.42 in <sup>2</sup>	[K53] 2.087 in	30 mm	2320-2828 psi	Steam	NV
7 NPS	7 NPS	3.55 in <sup>2</sup>	[K54] 2.126 in	30 mm	2320-2828 psi	Steam	NV
7 NPS	7 NPS	3.683 in <sup>2</sup>	[K55] 2.165 in	30 mm	2320-2828 psi	Steam	NV
7 NPS	7 NPS	3.818 in <sup>2</sup>	[K56] 2.205 in	30 mm	2320-2828 psi	Steam	NV
7 NPS	7 NPS	3.955 in <sup>2</sup>	[K57] 2.244 in	30 mm	2320-2828 psi	Steam	NV
7 NPS	7 NPS	4.095 in <sup>2</sup>	[K58] 2.283 in	30 mm	2320-2828 psi	Steam	NV
7 NPS	7 NPS	4.238 in <sup>2</sup>	[K59] 2.323 in	30 mm	2320-2828 psi	Steam	NV
7 NPS	7 NPS	4.383 in <sup>2</sup>	[K60] 2.362 in	30 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	4.383 in <sup>2</sup>	[L60] 2.362 in	35 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	4.53 in <sup>2</sup>	[L61] 2.402 in	35 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	4.68 in <sup>2</sup>	[L62] 2.441 in	35 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	4.832 in <sup>2</sup>	[L63] 2.48 in	35 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	4.986 in <sup>2</sup>	[L64] 2.52 in	35 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	5.143 in <sup>2</sup>	[L65] 2.559 in	35 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	5.303 in <sup>2</sup>	[L66] 2.598 in	35 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	5.465 in <sup>2</sup>	[L67] 2.638 in	35 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	5.629 in <sup>2</sup>	[L68] 2.677 in	35 mm	2320-2828 psi	Steam	NV

8 NPS	8 NPS	5.796 in <sup>2</sup>	[L69] 2.717 in	35 mm	2320-2828 psi	Steam	NV
8 NPS	8 NPS	5.965 in <sup>2</sup>	[L70] 2.756 in	35 mm	2320-2828 psi	Steam	NV

SETPOINT Integrated Solutions Inc. (CPA)

Nameplate Abbreviation: SETPOINT

Port Arthur, TX 77640United States

This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
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Manufacturer/Assembler	Designators	Expiration Date
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AssemblerUV, V07/20/2029

Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V



2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1700 & 2700 NBCert # 18100

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 07/19/2029

#### Design Type

[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name: 1700 & 2700 (Restricted Lift version of Cert. # 18100) NBCert # 18111

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/27/2029

### Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
 Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Restricted Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/19/2029

### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/19/2029

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/18/2029

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series			NBCert # 18706	
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		07/22/2029

## Design Type

[Safety Relief Valve] 19000 Series  
 Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/20/2029

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2

NBCert #

18144

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/19/2029

## Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 07/27/2029

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 3.256 GPM/SQ.RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/20/2029

#### Design Type

[Safety Relief Valve] 1900-DM  
 Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
 Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
 Set Pressure Definition(1): Pop; (2): First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV



4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/30/2029

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E

NBCert #

19099

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/30/2029

#### Design Type

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/20/2029

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	07/19/2029

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/27/2029

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
 Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
 Certified Value: 2.264 GPM/SQ. RT. PSID  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/18/2029

**Design Type**

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV

1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV

12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Setpoint Integrated Solutions, Inc. (CCS)

Nameplate Abbreviation: Setpoint Integrated Solutions

Luling, LA 70070United States

This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
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Manufacturer/Assembler	Designators	Expiration Date
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AssemblerUV, V12/13/2028

Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V

2-2.5 NPS	2.5 NPS	1.287 in²	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in²	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in²	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV
Design Name: 1700 & 2700				NBCert # 18100			
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV, V			03/23/2029	
Design Type							
[Safety Valve] 1700 & 2700 Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in²	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in²	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in²	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in²	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in²	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in²	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in²	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in²	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in²	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in²	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in²	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in²	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in²	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in²	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in²	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in²	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in²	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in²	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in²	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in²	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in²	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in²	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in²	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in²	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in²	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in²	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name:	1700 & 2700 (Restricted Lift version of Cert. # 18100)	NBCert #	18111
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	05/20/2028

Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in²	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in²	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in²	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in²	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in²	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in²	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in²	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in²	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in²	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in²	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in²	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in²	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in²	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in²	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in²	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in²	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in²	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in²	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in²	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in²	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in²	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in²	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in²	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in²	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in²	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/07/2027

### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/08/2027



Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35 NBCert # 18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/15/2025

Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)		NBCert #	18223
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	11/05/2030	

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Restricted Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV

10 NPS	14 NPS	50.26 in²	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV
Design Name: 19000 Series				NBCert #	18706		
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			07/29/2028	
Design Type							
[Safety Relief Valve] 19000 Series Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/03/2030

### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/15/2025

### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.1279 in²	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV
Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751							
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV, V		09/07/2027		
Design Type							
[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.256 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM		NBCert # 19066
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/29/2028
Design Type		
<p>[Safety Relief Valve] 1900-DM Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/16/2027

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E

NBCert #

19099

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/16/2027

**Design Type**

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

12/15/2025

**Design Type**

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

10/20/2028

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V



Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/17/2027

#### Design Type

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	1982	NBCert #	18379
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/23/2028

#### Design Type

[Safety Relief Valve] 1982  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at National Board Testing Lab (Picaway) on May 6, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Air	NV, UV
0.5 NPS	.75 NPS	0.121 in <sup>2</sup>	0.393 in	0.092 in	15-500 psi	Steam	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Air	NV, UV
0.75 NPS	1 NPS	0.216 in <sup>2</sup>	0.524 in	0.123 in	15-500 psi	Steam	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Air	NV, UV
1 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.15 in	15-500 psi	Steam	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Air	NV, UV
1.5 NPS	2 NPS	0.857 in <sup>2</sup>	1.045 in	0.243 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Steam	NV, UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.31 in	15-500 psi	Air	NV, UV

Design Name:	1982 LS, 820000LS	NBCert #	18380
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/03/2025

#### Design Type

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Design Name:	2900 (39PV & 39MV pilots - Liquid)	NBCert #	18874
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 11/14/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)  
Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V

3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name: 2900 (39PV & 39MV pilots) NBCert # 18863

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/14/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 2900-TM (39PV & 39MV pilots) NBCert # 01427

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/10/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900-TM (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Water	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Water	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Water	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV

1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Water	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Water	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2000 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Water	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Water	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-300 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Water	UV

Design Name:	3900 (39PV, 39MV pilots)	NBCert #	18447
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/13/2026

### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/05/2030

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.743 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV



8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Design Name:	3900-TM (39PV, 39MV pilots)	NBCert #	01438
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/10/2029

Design Type
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[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV

2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV

SETPOINT Integrated Solutions, Inc. (CCT)

Nameplate Abbreviation: SETPOINT  
INTEGRATED SOLUTIONS

Kilgore, TX 75662United States

This Company Manufactures or Assembles:

Design Name: 19000 Series				NBCert # 18706			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		04/30/2026		
Design Type							
[Safety Relief Valve] 19000 Series Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	NV

2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/30/2026

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 04/30/2026

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

04/30/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV

1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Setpoint Integrated Solutions, Inc. (SET)

Baton Rouge, LA 70809United States

**This Company Manufactures or Assembles:**

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/04/2027

### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1700 & 2700	NBCert #	18100
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/04/2027



## Design Type

[Safety Valve] 1700 & 2700  
 Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name: 1700 & 2700 (Restricted Lift version of Cert. # 18100) NBCert # 18111

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/18/2027

## Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
 Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Restricted Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name: 1811, 1511

NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/18/2027

## Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30 1900-35 LA & DALA  
(Liquids)

NBCert # 18784

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/19/2027

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V

1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/19/2027

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV

3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series NBCert # 18706

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/21/2027

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV

0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/18/2027

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV

0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/19/2027

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 06/19/2027

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name:	1900-DM-E	NBCert #	19099
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/13/2030

**Design Type**

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

06/19/2027

**Design Type**

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

06/19/2027

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V



Design Name:	1982 LS, 820000LS	NBCert #	18380
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/16/2030

#### Design Type

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Design Name:	2900 (39PV & 39MV pilots - Liquid)	NBCert #	18874
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 06/17/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)  
Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V

3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name: 2900 (39PV & 39MV pilots) NBCert # 18863

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/26/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots) NBCert # 18447

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/04/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV

1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV

10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name:	3900 (39PV, 39MV pilots, liquid)	NBCert #	18458
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/04/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV

3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Setpoint Integrated Solutions, Inc. (SIS)

Nameplate Abbreviation: Setpoint  
Integrated Solutions

La Porte, TX 77571 United States

### This Company Manufactures or Assembles:

Design Name: 1541, 1543, 1541-3, 1543-3 NBCert # 18032

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	05/09/2030

### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV

1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1700 & 2700

NBCert # 18100

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV, V

02/06/2030

### Design Type

[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV

3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name: 1700 & 2700 (Restricted Lift version of Cert. # 18100) NBCert # 18111

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	05/09/2030

### Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V



6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name: 1811, 1511 NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 02/06/2030

#### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	02/06/2030

### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/06/2030

### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name:	1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)	NBCert #	18223
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	12/21/2026
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#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV

8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV

Design Name:	19000 Series	NBCert #	18706
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/06/2030

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV

2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/08/2030

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 NBCert # 18144

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/06/2030

### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV, V

02/08/2030

### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

### Manufacturer/Assembler

### Designators

### Expiration Date

Assembler

UV

03/04/2028

### Design Type

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV

1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

03/04/2028

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV



Design Name: 1900-DM-E		NBCert # 19099
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/29/2027
<b>Design Type</b>		
[Safety Relief Valve] 1900-DM-E Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2		NBCert # 18166
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/09/2030
<b>Design Type</b>		
[Safety Relief Valve] 1900E-2, 1900-30E-2 Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids)		NBCert # 18762
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	02/08/2030
<b>Design Type</b>		
[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.798 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in²	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V
Design Name: 19110M & 19110H (Liquids)NBCert #19077							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			12/21/2026	
Design Type							
[Relief Valve] 19110M & 19110H (Liquids) Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.264 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1
Design Name: 2900 (39PV & 39MV pilots - Liquid)NBCert #18874							
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV			12/21/2026	
Design Type							
[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid) Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.670 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in²	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in²	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in²	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in²	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in²	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in²	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.138 in²	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in²	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in²	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in²	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V

4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name:	2900 (39PV & 39MV pilots)	NBCert #	18863
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/21/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV

6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 2900 POSRV (39 PV, 39 MV Pilots) NBCert # 18964

Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 12/04/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900 POSRV (39 PV, 39 MV Pilots)  
Capacity Tests: Sec. V at Dresser, Inc. on November 2, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.851 Unitless; (alternate medium): 0.691 Unitless; Certification Provisions: Economizer Service (Prev. CC 2446)  
Media - Test: Liquid, Steam; Certified: Steam and Water  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	50-5800 psi	Steam	V
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	50-5800 psi	Water	V
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	50-5800 psi	Steam	V
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	50-5800 psi	Water	V
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	50-5800 psi	Steam	V
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	50-5800 psi	Water	V
1.5-2 NPS	3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	50-5800 psi	Steam	V
1.5-2 NPS	3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	50-5800 psi	Water	V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	45-3750 psi	Steam	V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	45-3750 psi	Water	V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	50-5800 psi	Steam	V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	50-5800 psi	Water	V
3 NPS	4, 6 NPS	2.136 in <sup>2</sup>	[K] 1.649 in	0.446 in	55-5800 psi	Steam	V
3 NPS	4, 6 NPS	2.136 in <sup>2</sup>	[K] 1.649 in	0.446 in	55-5800 psi	Water	V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	60-6250 psi	Steam	V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	60-6250 psi	Water	V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	65-2250 psi	Steam	V

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.625 in	65-2250 psi	Water	V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	40-2250 psi	Steam	V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	40-2250 psi	Water	V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	75-2250 psi	Steam	V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	75-2250 psi	Water	V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	85-1500 psi	Steam	V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	85-1500 psi	Water	V
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	40-1500 psi	Steam	V
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	40-1500 psi	Water	V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	40-905 psi	Steam	V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	40-905 psi	Water	V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	40-905 psi	Steam	V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	40-905 psi	Water	V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	40-675 psi	Steam	V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	40-675 psi	Water	V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	40-535 psi	Steam	V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	40-535 psi	Water	V

Design Name: 2900-TM (39PV & 39MV pilots) NBCert # 01427

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/13/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900-TM (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Water	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Water	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Water	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Water	UV

1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Water	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Water	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2000 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Water	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Water	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-300 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Water	UV

Design Name:	3900 (39PV, 39MV pilots)	NBCert #	18447
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/06/2030

### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/11/2029



## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.743 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV

8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Design Name: 3900-TM (39PV, 39MV pilots) NBCert # 01438

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/13/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV

2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV

10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV
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## SETPPOINT Integrated Solutions, Inc. (STC)

Nameplate Abbreviation: Setpoint  
Integrated Solutions

Corpus Christi, TX 78409United States

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
Manufacturer/Assembler	Designators	Expiration Date	

Assembler UV, V 12/06/2029

#### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV

2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 12/06/2029

Design Type
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[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 12/06/2029

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/06/2029

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)		NBCert #	18223
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	12/06/2029	

## Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Restricted Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV



10 NPS	14 NPS	50.26 in²	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in²	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV
Design Name: 19000 Series				NBCert #	18706		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		12/06/2029		
Design Type							
[Safety Relief Valve] 19000 Series Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - ; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in²	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in²	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in²	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in²	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in²	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in²	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in²	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/06/2029

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/06/2029

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.1279 in²	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV
Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751							
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV, V		12/06/2029		
Design Type							
[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.256 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM		NBCert # 19066
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/28/2028
Design Type		
<p>[Safety Relief Valve] 1900-DM Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/16/2027

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E

NBCert #

19099

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/16/2027

**Design Type**

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 NBCert # 18166

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

12/06/2029

**Design Type**

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

12/06/2029

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/06/2029

#### Design Type

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	2900-TM (39PV & 39MV pilots)	NBCert #	01427
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 01/05/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 2900-TM (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-6250 psi	Water	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Water	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-6250 psi	Water	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV

1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Water	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Water	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2000 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Water	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Water	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-300 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Water	UV

Design Name: 3900 (39PV, 39MV pilots)	NBCert # 18447
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	12/06/2029
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV



4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/07/2029

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.743 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV

8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

Design Name:	3900-TM (39PV, 39MV pilots)	NBCert #	01438
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/15/2029

Design Type
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[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV

2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV

10 NPS14 NPS69.94 in²9.437 in3 in15-1500 psiWaterUV

Setpoint Integrated Solutions, Inc. (STR)

Nameplate Abbreviation: Setpoint Integrated Solutions

Richwood, TX 77531United States

This Company Manufactures or Assembles:

Design Name: 1900, 1900-30 1900-35 LA & DALA (Liquids)NBCert #18784

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/04/2029

Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in²	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in²	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in²	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in²	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in²	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in²	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in²	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in²	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in²	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in²	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in²	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in²	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in²	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in²	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in²	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in²	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in²	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in²	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 19000 Series, LiquidNBCert #18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/04/2029

## Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/04/2029

## Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/04/2029

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler UV 12/04/2029

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name: 2900 (39PV & 39MV pilots - Liquid) NBCert # 18874

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler UV 10/31/2029

**Design Type**

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)  
Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V

1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name: 3900 (39PV, 39MV pilots, liquid) NBCert # 18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/04/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV



3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Setpoint Integrated Solutions, Inc. (WLS)

Nameplate Abbreviation: Setpoint  
Integrated Solutions

Sulphur, LA 70665United States

### This Company Manufactures or Assembles:

Design Name: 1811, 1511

NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV, V

09/02/2027

#### Design Type

[Safety Valve] 1811, 1511

Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.877 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV

1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	07/19/2030

Design Type
[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995
Method of Establishing Relieving Capacity: Flow Capacity, K
Certified Value: 0.670 Unitless
Media - Test: Liquid; Certified: Liquid
Set Pressure Definition: First Steady Stream
Blowdown Characteristics: Fixed
Flow Area Configuration: Nozzle/Full Lift
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V

6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35 NBCert # 18201

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/19/2030

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV

6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series NBCert # 18706

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/19/2030

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV

1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/19/2030

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/19/2030

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/19/2030

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name:	1900E-2, 1900-30E-2	NBCert #	18166
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/19/2030

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in²	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV
Design Name: 2900 (39PV & 39MV pilots - Liquid)							
NBCert #				18874			
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV, V			05/25/2027	
Design Type							
[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid)							
Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999							
Method of Establishing Relieving Capacity: Flow Capacity, K							
Certified Value: 0.670 Unitless							
Media - Test: Liquid; Certified: Liquid							
Set Pressure Definition: First Steady Stream							
Blowdown Characteristics: Fixed							
Flow Area Configuration: Nozzle/Full Lift							
Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name: 2900 (39PV & 39MV pilots)			NBCert #	18863
Manufacturer/Assembler		Designators		Expiration Date
Assembler		UV		05/25/2027
Design Type				

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
 Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots)		NBCert # 18447
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/24/2027



## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)

NBCert #

18458

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	09/04/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV

1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Shanghai Beiting Valve Co., Ltd. (SHB)

Shanghai, 201802People's Republic of China

**This Company Manufactures or Assembles:**

Design Name: BTA-22C300C (13 mm orifice)		NBCert #	02350
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/23/2027
Design Type			
[Safety Relief Valve] BTA-22C300C (13 mm orifice) Capacity Tests: Sec. UV at National Board Testing Lab on June 16, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:1245.3 SCFM Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Shanghai Beiting Valve Co., Ltd. {SHB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.625 in		132.73 mm <sup>2</sup>	13 mm	3.25 mm	400-400 psi	Air	UV

Design Name: BTA-22C300C (17.5 mm orifice)		NBCert #	02361
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/23/2027
Design Type			
[Safety Relief Valve] BTA-22C300C (17.5 mm orifice) Capacity Tests: Sec. UV at National Board Testing Lab on June 16, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:2320.3 SCFM Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Shanghai Beiting Valve Co., Ltd. {SHB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.875 in		240.53 mm <sup>2</sup>	17.5 mm	4.4 mm	450-450 psi	Air	UV

Design Name: BTA-22C300C (24 mm orifice)		NBCert #	02372
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/23/2027
Design Type			
[Safety Relief Valve] BTA-22C300C (24 mm orifice) Capacity Tests: Sec. UV at National Board Testing Lab on June 16, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:2359.2 SCFM Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Shanghai Beiting Valve Co., Ltd. {SHB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 in		452.39 mm <sup>2</sup>	24 mm	6 mm	235-235 psi	Air	UV

Design Name: BTA-22C300T (12 mm orifice)		NBCert #	02338
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/23/2027
Design Type			
[Safety Relief Valve] BTA-22C300T (12 mm orifice) Capacity Tests: Sec. UV at National Board Testing Lab on June 16, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 2.540 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Shanghai Beiting Valve Co., Ltd. {SHB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 in	113.1 mm <sup>2</sup>	12 mm	3 mm	150-500 psi	Air	UV

Design Name: BTA-22C300T (30 mm orifice)		NBCert #	02518
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	12/02/2028
Design Type			
[Safety Relief Valve] BTA-22C300T (30 mm orifice) Capacity Tests: Sec. UV at National Board Testing Lab on August 9, 2022 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 14.900 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Shanghai Beiting Valve Co., Ltd. {SHB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	706.8 mm <sup>2</sup>	30 mm	7.5 mm	50-150 psi	Air	UV

Design Name: BTA-22C300T (7.8 mm orifice)		NBCert #	01832
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/23/2027
Design Type			
[Safety Relief Valve] BTA-22C300T (7.8 mm orifice) Capacity Tests: Sec. UV at National Board Testing Lab on June 16, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.980 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Shanghai Beiting Valve Co., Ltd. {SHB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	0.875 in	47.78 mm <sup>2</sup>	7.8 mm	1.95 mm	150-500 psi	Air	UV

Design Name: BTA-22C300T, BTA-22C300T1 (18 mm orifice)		NBCert #	02349
Manufacturer/Assembler	Designators		Expiration Date
Manufacturer	UV		04/23/2027
Design Type			
[Safety Relief Valve] BTA-22C300T, BTA-22C300T1 (18 mm orifice) Capacity Tests: Sec. UV at National Board Testing Lab on June 16, 2020 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.490 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Shanghai Beiting Valve Co., Ltd. {SHB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 in	254.47 mm <sup>2</sup>	18 mm	4.5 mm	50-500 psi	Air	UV

Design Name: BTA-22C300T1 (6.3 mm orifice)		NBCert #	02529
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	12/02/2028	
Design Type			
[Safety Relief Valve] BTA-22C300T1 (6.3 mm orifice) Capacity Tests: Sec. UV at National Board Testing Lab on August 30, 2022 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.643 SCFM/PSIA Media - Test: Air/Gas; Certified: Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Shanghai Beiting Valve Co., Ltd. {SHB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.125 in		31.17 mm <sup>2</sup>	6.3 mm	1.575 mm	150-400 psi	Air	UV

## Shanghai Huali Safety Devices Co., Ltd. (SHS)

Shanghai, 201109People's Republic of China

### This Company Manufactures or Assembles:

Design Name:	DS	NBCert #	01663
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UD	09/11/2029	

**Design Type**

[Rupture Disk Device] DS  
HolderDesignation: DHA, DHA-ZK  
Capacity Tests: Sec. UD at National Board Testing Lab on December 13, 2017  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.730 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Shanghai Huali Safety Devices Co., Ltd. {SHS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.76 in <sup>2</sup>			130.5-435 psi		UD
1.25 NPS		1.23 in <sup>2</sup>			87-435 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			50.75-435 psi		UD
10 NPS		76.05 in <sup>2</sup>			4.35-261 psi		UD
12 NPS		109.51 in <sup>2</sup>			4.35-188.5 psi		UD
14 NPS		149.05 in <sup>2</sup>			4.35-130.5 psi		UD
16 NPS		194.68 in <sup>2</sup>			3.625-130.5 psi		UD
18 NPS		246.39 in <sup>2</sup>			3.625-113.1 psi		UD
2 NPS		3.04 in <sup>2</sup>			50.75-435 psi		UD
2.5 NPS		4.91 in <sup>2</sup>			23.2-406 psi		UD
20 NPS		304.19 in <sup>2</sup>			3.625-113.1 psi		UD
24 NPS		438.03 in <sup>2</sup>			2.175-94.25 psi		UD
26 NPS		514.08 in <sup>2</sup>			2.175-72.5 psi		UD
28 NPS		596.21 in <sup>2</sup>			2.175-72.5 psi		UD
3 NPS		7.07 in <sup>2</sup>			23.2-406 psi		UD
30 NPS		684.42 in <sup>2</sup>			1.45-58 psi		UD
32 NPS		778.72 in <sup>2</sup>			1.45-58 psi		UD
4 NPS		12.17 in <sup>2</sup>			13.05-377 psi		UD
5 NPS		19.01 in <sup>2</sup>			13.05-377 psi		UD
6 NPS		27.38 in <sup>2</sup>			7.25-333.5 psi		UD
8 NPS		48.67 in <sup>2</sup>			7.25-261 psi		UD

Design Name: FS

NBCert #

01652

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

09/11/2029

**Design Type**

[Rupture Disk Device] FS  
HolderDesignation: FHA, FHA-ZK  
Capacity Tests: Sec. UD at National Board Testing Lab on December 12, 2017  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.770 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Shanghai Huali Safety Devices Co., Ltd. {SHS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.76 in <sup>2</sup>			17.4-174 psi		UD
1.25 NPS		1.23 in <sup>2</sup>			17.4-174 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			13.05-145 psi		UD
10 NPS		76.05 in <sup>2</sup>			8.7-58 psi		UD
12 NPS		109.51 in <sup>2</sup>			8.7-58 psi		UD
14 NPS		149.05 in <sup>2</sup>			4.35-43.5 psi		UD
16 NPS		194.68 in <sup>2</sup>			4.35-36.25 psi		UD
18 NPS		246.39 in <sup>2</sup>			2.9-29 psi		UD
2 NPS		3.04 in <sup>2</sup>			13.05-145 psi		UD
2.5 NPS		4.91 in <sup>2</sup>			13.05-145 psi		UD
20 NPS		304.19 in <sup>2</sup>			2.9-29 psi		UD
24 NPS		438.03 in <sup>2</sup>			1.45-29 psi		UD
3 NPS		7.07 in <sup>2</sup>			13.05-116 psi		UD
4 NPS		12.17 in <sup>2</sup>			13.05-87 psi		UD
5 NPS		19.01 in <sup>2</sup>			13.05-87 psi		UD
6 NPS		27.38 in <sup>2</sup>			10.88-72.5 psi		UD
8 NPS		48.67 in <sup>2</sup>			10.88-72.5 psi		UD

Design Name: RM90	NBCert # 01630
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	09/11/2029
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#### Design Type

[Rupture Disk Device] RM90  
HolderDesignation: ROHA, ROHA-ZK  
Capacity Tests: Sec. UD at National Board Testing Lab on December 12, 2017  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.500 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Shanghai Huali Safety Devices Co., Ltd. {SHS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.76 in <sup>2</sup>			217.5-1450 psi		UD
1.25 NPS		1.23 in <sup>2</sup>			188.5-1450 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			145-1450 psi		UD
10 NPS		76.05 in <sup>2</sup>			29-362.5 psi		UD
12 NPS		109.51 in <sup>2</sup>			29-290 psi		UD
14 NPS		149.05 in <sup>2</sup>			26.1-217.5 psi		UD
16 NPS		194.68 in <sup>2</sup>			26.1-145 psi		UD
18 NPS		246.39 in <sup>2</sup>			23.2-116 psi		UD
2 NPS		3.04 in <sup>2</sup>			101.5-1450 psi		UD
2.5 NPS		4.91 in <sup>2</sup>			87-1450 psi		UD



20 NPS	304.19 in <sup>2</sup>	21.75-87 psi	UD
3 NPS	7.07 in <sup>2</sup>	87-1160 psi	UD
4 NPS	12.17 in <sup>2</sup>	72.5-1160 psi	UD
5 NPS	19.01 in <sup>2</sup>	58-725 psi	UD
6 NPS	27.38 in <sup>2</sup>	43.5-725 psi	UD
8 NPS	48.67 in <sup>2</sup>	36.25-522 psi	UD

Design Name: RS	NBCert # 01641
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/11/2029

Design Type
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[Rupture Disk Device] RS  
HolderDesignation: ROHA, ROHA-ZK  
Capacity Tests: Sec. UD at National Board Testing Lab on December 12, 2017  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 3.420 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Shanghai Huali Safety Devices Co., Ltd. {SHS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.76 in <sup>2</sup>			36.25-290 psi		UD
1.25 NPS		1.23 in <sup>2</sup>			36.25-261 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			29-217.5 psi		UD
10 NPS		76.05 in <sup>2</sup>			7.25-58 psi		UD
12 NPS		109.51 in <sup>2</sup>			4.35-43.5 psi		UD
14 NPS		149.05 in <sup>2</sup>			2.9-36.25 psi		UD
16 NPS		194.68 in <sup>2</sup>			2.175-29 psi		UD
18 NPS		246.39 in <sup>2</sup>			2.175-29 psi		UD
2 NPS		3.04 in <sup>2</sup>			21.75-174 psi		UD
2.5 NPS		4.91 in <sup>2</sup>			21.75-145 psi		UD
20 NPS		304.19 in <sup>2</sup>			2.175-29 psi		UD
3 NPS		7.07 in <sup>2</sup>			14.5-116 psi		UD
4 NPS		12.17 in <sup>2</sup>			14.5-116 psi		UD
5 NPS		19.01 in <sup>2</sup>			8.7-87 psi		UD
6 NPS		27.38 in <sup>2</sup>			8.7-72.5 psi		UD
8 NPS		48.67 in <sup>2</sup>			7.25-72.5 psi		UD

Shenyang Xinguang Aerospace Safety System Co., Ltd (SXA)	Nameplate Abbreviation: XG
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Shenyang City, Liaoning Province, 110168People's Republic of China

**This Company Manufactures or Assembles:**

Design Name: NS		NBCert # 02484
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/09/2028
Design Type		
[Rupture Disk Device] NS HolderDesignation: NPZ Capacity Tests: Sec. UD at National Board Testing Lab on October 22, 2021 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 0.700 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: Shenyang Xinguang Aerospace Safety System Co., Ltd {SXA}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.954 in <sup>2</sup>			43.5-1450 psi		UD
1.5 NPS		2.575 in <sup>2</sup>			29-1305 psi		UD
10 NPS		80.365 in <sup>2</sup>			4.35-435 psi		UD
12 NPS		115.426 in <sup>2</sup>			2.9-435 psi		UD
14 NPS		135.33 in <sup>2</sup>			2.9-362.5 psi		UD
16 NPS		176.625 in <sup>2</sup>			2.9-290 psi		UD
18 NPS		223.411 in <sup>2</sup>			2.9-290 psi		UD
2 NPS		3.816 in <sup>2</sup>			14.5-1160 psi		UD
20 NPS		275.687 in <sup>2</sup>			2.9-217.5 psi		UD
24 NPS		402.289 in <sup>2</sup>			2.9-217.5 psi		UD
28 NPS		588.06 in <sup>2</sup>			2.9-145 psi		UD
3 NPS		8.999 in <sup>2</sup>			11.6-870 psi		UD
32 NPS		722.504 in <sup>2</sup>			2.9-145 psi		UD
36 NPS		982.068 in <sup>2</sup>			2.9-145 psi		UD
4 NPS		13.415 in <sup>2</sup>			8.7-725 psi		UD
40 NPS		1216.75 in <sup>2</sup>			2.9-145 psi		UD
6 NPS		29.611 in <sup>2</sup>			5.8-580 psi		UD
8 NPS		51.634 in <sup>2</sup>			4.35-580 psi		UD

<b>Spartan Controls Ltd. (SPN)</b>	Nameplate Abbreviation: SCL - EDM
Edmonton, AB T6B 3P2Canada	

**This Company Manufactures or Assembles:**

Design Name: 243/249/443/449/546/843/849/943/5046/5049/8043/8049		NBCert # 01292
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/01/2028

## Design Type

[Pilot Operated Pressure Relief Valve] 243/249/443/449/546/843/849/943/5046/5049/8043/8049  
 Capacity Tests: Sec. UV at unknown lab on August 8, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-720 psi	Steam	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	15-10600 psi	Air	UV
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.446 in	25-720 psi	Steam	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.637 in	15-720 psi	Steam	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-720 psi	Steam	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-10600 psi	Air	UV
4 NPS	6 NPS	7.645 in <sup>2</sup>	[P] 3.12 in	1.62 in	15-720 psi	Steam	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.597 in <sup>2</sup>	[R] 4.866 in	2.435 in	15-720 psi	Steam	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-10600 psi	Air	UV
8 NPS	10 NPS	30.582 in <sup>2</sup>	[T] 6.24 in	3.12 in	15-720 psi	Steam	UV

Design Name: 253/259/453/459/853/859/953/959/5059/8053/8059 NBCert # 01304

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/01/2028

## Design Type

[Pilot Operated Pressure Relief Valve] 253/259/453/459/853/859/953/959/5059/8053/8059  
 Capacity Tests: Sec. UV at unknown lab on July 31, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.627 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.205 in <sup>2</sup>	[D] 0.674 in	0.079 in	15-15000 psi	Air	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-15000 psi	Air	UV
1.5 NPS	2, 3 NPS	0.831 in <sup>2</sup>	[G] 1.078 in	0.241 in	15-10600 psi	Air	UV
2 NPS	3 NPS	0.85 in <sup>2</sup>	[G] 1.38 in	0.191 in	15-15000 psi	Air	UV
2 NPS	3 NPS	1.312 in <sup>2</sup>	[H] 1.38 in	0.295 in	15-15000 psi	Air	UV
3 NPS	3 NPS	2.132 in <sup>2</sup>	[J] 2.055 in	0.323 in	15-10600 psi	Air	UV
3 NPS	4 NPS	3.043 in <sup>2</sup>	[K] 2.055 in	0.461 in	15-10600 psi	Air	UV

4 NPS	6 NPS	7.188 in <sup>2</sup>	[N] 3.12 in	0.725 in	15-10600 psi	Air	UV
4 NPS	6 NPS	4.729 in <sup>2</sup>	[L] 3.12 in	0.477 in	15-10600 psi	Air	UV
4 NPS	6 NPS	5.959 in <sup>2</sup>	[M] 3.12 in	0.601 in	15-10600 psi	Air	UV
6 NPS	8, 10 NPS	18.294 in <sup>2</sup>	[Q] 4.866 in	1.185 in	15-10600 psi	Air	UV

Design Name: 263/269/463/469/566/863/869/963/969/5066/5069 NBCert # 01315

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/01/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 263/269/463/469/566/863/869/963/969/5066/5069

Capacity Tests: Sec. UV at unknown lab on July 30, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.860 Unitless

Media - Test: Air/Gas; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (2): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-10600 psi	Air	UV
1-1.5 NPS	2 NPS	1.496 in <sup>2</sup>	1.38 in	0.96 in	15-720 psi	Steam	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-10600 psi	Air	UV
2 NPS	3 NPS	2.895 in <sup>2</sup>	1.92 in	1.155 in	15-720 psi	Steam	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-10600 psi	Air	UV
3 NPS	4 NPS	6.733 in <sup>2</sup>	2.928 in	1.62 in	15-720 psi	Steam	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-10600 psi	Air	UV
4 NPS	6 NPS	10.758 in <sup>2</sup>	3.701 in	2.035 in	15-2220 psi	Steam	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-10600 psi	Air	UV
6 NPS	8 NPS	23.328 in <sup>2</sup>	5.45 in	3 in	15-720 psi	Steam	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-10600 psi	Air	UV
8 NPS	8 NPS	32.17 in <sup>2</sup>	6.4 in	3.52 in	15-720 psi	Steam	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-10600 psi	Air	UV
8 NPS	10 NPS	36.605 in <sup>2</sup>	6.827 in	3.755 in	15-720 psi	Steam	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-1480 psi	Air	UV
8 NPS	10 NPS	37.523 in <sup>2</sup>	6.912 in	3.802 in	15-720 psi	Steam	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-1480 psi	Air	UV
8 NPS	10 NPS	44.179 in <sup>2</sup>	7.5 in	4.125 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-10600 psi	Air	UV
10 NPS	14 NPS	72.006 in <sup>2</sup>	9.575 in	5.35 in	15-720 psi	Steam	UV

Design Name: 443/449/546/843/849/943/949/5046/5049 (Liquids) NBCert # 01337

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 08/01/2028

**Design Type**

[Pilot Operated Pressure Relief Valve] 443/449/546/843/849/943/949/5046/5049(Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.767 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.21 in	15-7600 psi	Water	UV, V
1.5 NPS	2, 3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.51 in	15-7600 psi	Water	UV, V
2 NPS	3 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.82 in	15-7600 psi	Water	UV, V
3 NPS	4 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	1.155 in	15-7600 psi	Water	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.62 in	15-7600 psi	Water	UV, V
6 NPS	8, 10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.435 in	15-7600 psi	Water	UV, V
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	3.12 in	15-7600 psi	Water	UV, V

Design Name: 453/459/853/859/953/959/5059 (Liquids) NBCert # 01326

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

08/01/2028

**Design Type**

[Pilot Operated Pressure Relief Valve] 453/459/853/859/953/959/5059 (Liquids)  
 Capacity Tests: Sec. UV, V at Crosby Valve, LLC on August 5, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.491 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Curtain Area  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	UV
1-1.5 NPS	2 NPS	0.356 in <sup>2</sup>	[E] 0.674 in	0.137 in	15-7600 psi	Water	V
1-1.5 NPS	2 NPS	0.221 in <sup>2</sup>	[D] 0.674 in	0.085 in	15-7600 psi	Water	V
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	UV
1.5 NPS	2, 3 NPS	0.911 in <sup>2</sup>	[G] 1.078 in	0.264 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	UV
2 NPS	3 NPS	1.005 in <sup>2</sup>	[G] 1.38 in	0.226 in	15-7600 psi	Water	V
2 NPS	3 NPS	1.495 in <sup>2</sup>	[H] 1.38 in	0.336 in	15-7600 psi	Water	V
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	UV
3 NPS	4 NPS	2.574 in <sup>2</sup>	[J] 2.055 in	0.39 in	15-7600 psi	Water	V
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	UV
3 NPS	4 NPS	3.313 in <sup>2</sup>	[K] 2.055 in	0.502 in	15-7600 psi	Water	V

4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	UV
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	UV
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	UV
4 NPS	6 NPS	5.711 in <sup>2</sup>	[L] 3 in	0.576 in	15-7600 psi	Water	V
4 NPS	6 NPS	6.385 in <sup>2</sup>	[M] 3 in	0.644 in	15-7600 psi	Water	V
4 NPS	6 NPS	7.059 in <sup>2</sup>	[N] 3 in	0.712 in	15-7600 psi	Water	V
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	UV
6 NPS	8, 10 NPS	15.885 in <sup>2</sup>	[Q] 4.5 in	1.029 in	15-7600 psi	Water	V

Design Name: 81, 81P, 83, 84 NBCert # 01089

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/15/2028

#### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.816 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name: 81P (Liquids) NBCert # 01102

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/10/2030

**Design Type**

[Relief Valve] 81P (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on November 26, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.720 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: 93% of pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	200-12500 psi	Water	UV, V
0.5-1 NPS	0.5-1 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	200-12500 psi	Water	UV, V
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-5000 psi	Water	NV
0.5-2 NPS	1 - 2 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	50-12500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.13 in	50-8500 psi	Water	UV, V
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-5000 psi	Water	NV
0.75-2 NPS	1 - 2 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	50-6000 psi	Water	UV, V
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	50-6000 psi	Water	UV, V
2-2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	50-1620 psi	Water	UV, V

Design Name: 900 Series (Liquid), 7700, SNC NBCert # 15499

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

08/01/2028

**Design Type**

[Relief Valve] 900 Series (Liquid), 7700, SNC  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.661 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV

1.5 NPS      2.5 NPS      0.5674 in<sup>2</sup>      [#9] 0.85 in      0.274 in      15-5000 psi      Water      UV, V

Design Name: 900 Series, 7700, SNC			NBCert # 15411	
Manufacturer/Assembler		Designators		Expiration Date

Assembler UV 08/01/2028

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, NBCert # 15006 HSA, HSB, HSC, HSP)		
Manufacturer/Assembler		Expiration Date

Assembler UV, V 09/10/2030

#### Design Type

[Safety Valve] H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, HSA, HSB, HSC, HSP)  
 Capacity Tests: Sec. UV, V at unknown lab on September 1, 1939  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-500 psi	Steam	UV, V
0.75 NPS	1.5 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-500 psi	Steam	UV, V
1-1.5 NPS	2 - 3 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-3100 psi	Steam	UV, V



1-2 NPS	2.5, 3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-3100 psi	Steam	UV, V
1.5-2 NPS	3, 4, 6 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-5000 psi	Steam	UV, V
1.5 NPS	3 NPS	0.865 in <sup>2</sup>	1.05 in	0.262 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.994 in <sup>2</sup>	[H2] 1.125 in	0.281 in	15-3100 psi	Steam	UV, V
2-3 NPS	3, 4, 6 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-5000 psi	Steam	UV, V
2 NPS	4 NPS	1.431 in <sup>2</sup>	[J2] 1.35 in	0.338 in	15-3100 psi	Steam	UV, V
2.5-3 NPS	4, 6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-6000 psi	Steam	UV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-6000 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.476 in	15-3100 psi	Steam	UV, V
3 NPS	6 NPS	3.341 in <sup>2</sup>	[L2] 2.062 in	0.516 in	15-3100 psi	Steam	UV, V
3-4 NPS	6, 8 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-6000 psi	Steam	UV, V
3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.563 in	15-6000 psi	Steam	UV, V
4 NPS	6 NPS	4.341 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-3100 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.712 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.937 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q2] 3.95 in	0.988 in	15-3100 psi	Steam	UV, V
6 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-3100 psi	Steam	UV, V
6 NPS	10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.239 in	15-3100 psi	Steam	UV, V
8 NPS	10, 12 NPS	26 in <sup>2</sup>	[T] 5.75 in	1.437 in	15-500 psi	Steam	UV, V
8 NPS	12, 14 NPS	28.274 in <sup>2</sup>	6 in	1.5 in	15-2000 psi	Steam	UV, V
10 NPS	14 NPS	44.18 in <sup>2</sup>	7.5 in	1.875 in	15-500 psi	Steam	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	9 in	2.25 in	15-500 psi	Steam	UV, V
14 NPS	18 NPS	86.59 in <sup>2</sup>	10.5 in	2.625 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	95.21 in <sup>2</sup>	11.01 in	2.753 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	114.04 in <sup>2</sup>	12.05 in	3.02 in	15-500 psi	Steam	UV, V
18 NPS	24 NPS	143.14 in <sup>2</sup>	13.5 in	3.375 in	15-500 psi	Steam	UV, V
20 NPS	24 NPS	176.71 in <sup>2</sup>	15 in	3.75 in	15-500 psi	Steam	UV, V

Design Name: HL, HSL

NBCert # 15589

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/10/2030

#### Design Type

[Safety Valve] HL, HSL  
Capacity Tests: Sec. UV, V at Crosby Valve, LLC on November 3, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.869 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	1.5 NPS	0.339 in <sup>2</sup>	[F] 0.657 in	0.164 in	15-725 psi	Steam	UV, V

1.25-2 NPS	1.5 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.21 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.868 in <sup>2</sup>	[H] 1.051 in	0.263 in	15-725 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.327 in <sup>2</sup>	[J] 1.3 in	0.325 in	15-725 psi	Steam	UV, V
2-3 NPS	3-4 NPS	2.046 in <sup>2</sup>	[K] 1.614 in	0.404 in	15-725 psi	Steam	UV, V
2.5-4 NPS	4-6 NPS	3.167 in <sup>2</sup>	[L] 2.008 in	0.502 in	15-725 psi	Steam	UV, V
3 NPS	4-6 NPS	3.955 in <sup>2</sup>	[M] 2.244 in	0.561 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	4.831 in <sup>2</sup>	[N] 2.48 in	0.62 in	15-725 psi	Steam	UV, V
4 NPS	6 NPS	7.031 in <sup>2</sup>	[P] 2.992 in	0.748 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[QQ] 3.75 in	0.937 in	15-725 psi	Steam	UV, V
6 NPS	8 NPS	12.174 in <sup>2</sup>	[Q] 3.937 in	0.984 in	15-725 psi	Steam	UV, V

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	08/01/2028

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.656 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V

3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABLNBCert # 15512

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/01/2028

#### Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS, 8500, ACL/ABL  
Capacity Tests: Sec. UV at Crosby Valve, LLC on June 28, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.870 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Air	UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Air	UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Air	UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Air	UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Air	UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Air	UV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Air	UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Air	UV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Air	UV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/01/2028

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.865 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV

6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Spirax Sarco, Inc. (SPS)

Blythewood, SC 29016United States

### This Company Manufactures or Assembles:

Design Name: SV7			NBCert #		71020		
Manufacturer/Assembler			Designators			Expiration Date	
Assembler			UV, V			10/21/2025	
Design Type							
[Safety Valve] SV7 Capacity Tests: Sec. UV, V at National Board Testing Lab on July 30, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.859 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Spirax-Sarco Limited {SSL}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.328 in²	[F] 0.646 in	0.161 in	15-300 psi	Steam	UV
1.5 NPS	2 NPS	0.328 in²	[F] 0.646 in	0.161 in	15-300 psi	Steam	V

1.5 NPS	2 NPS	0.537 in <sup>2</sup>	[G] 0.827 in	0.207 in	15-300 psi	Steam	V
1.5 NPS	2 NPS	0.537 in <sup>2</sup>	[G] 0.827 in	0.207 in	15-300 psi	Steam	UV
1.5 NPS	2.5 NPS	0.841 in <sup>2</sup>	[H] 1.035 in	0.259 in	15-300 psi	Steam	UV
1.5 NPS	2.5 NPS	0.841 in <sup>2</sup>	[H] 1.035 in	0.259 in	15-300 psi	Steam	V
1.5-2 NPS	2.5 NPS	1.374 in <sup>2</sup>	[J] 1.323 in	0.33 in	15-300 psi	Steam	V
1.5-2 NPS	2.5 NPS	1.374 in <sup>2</sup>	[J] 1.323 in	0.33 in	15-300 psi	Steam	UV
2-2.5 NPS	3 NPS	1.968 in <sup>2</sup>	[K] 1.583 in	0.395 in	15-300 psi	Steam	V
2-2.5 NPS	3 NPS	1.968 in <sup>2</sup>	[K] 1.583 in	0.395 in	15-300 psi	Steam	UV
2.5-3 NPS	4 NPS	3.054 in <sup>2</sup>	[L] 1.972 in	0.493 in	15-300 psi	Steam	UV
2.5-3 NPS	4 NPS	3.054 in <sup>2</sup>	[L] 1.972 in	0.493 in	15-300 psi	Steam	V
3 NPS	4 NPS	3.846 in <sup>2</sup>	[M] 2.213 in	0.553 in	15-300 psi	Steam	V
3 NPS	4 NPS	3.846 in <sup>2</sup>	[M] 2.213 in	0.553 in	15-300 psi	Steam	UV
4 NPS	6 NPS	4.633 in <sup>2</sup>	[N] 2.429 in	0.607 in	15-300 psi	Steam	UV
4 NPS	6 NPS	4.633 in <sup>2</sup>	[N] 2.429 in	0.607 in	15-300 psi	Steam	V
4 NPS	6 NPS	6.83 in <sup>2</sup>	[P] 2.949 in	0.737 in	15-300 psi	Steam	V
4 NPS	6 NPS	6.83 in <sup>2</sup>	[P] 2.949 in	0.737 in	15-300 psi	Steam	UV
6 NPS	8 NPS	11.811 in <sup>2</sup>	[Q] 3.878 in	0.969 in	15-300 psi	Steam	UV
6 NPS	8 NPS	11.811 in <sup>2</sup>	[Q] 3.878 in	0.969 in	15-300 psi	Steam	V
6 NPS	8 NPS	17.121 in <sup>2</sup>	[R] 4.669 in	1.167 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.121 in <sup>2</sup>	[R] 4.669 in	1.167 in	15-300 psi	Steam	UV

## Spirax-Sarco Limited (SSL)

Nameplate Abbreviation: Spirax Sarco

Cheltenham, GL51 9NQUnited Kingdom

### This Company Manufactures or Assembles:

Design Name: SV7		NBCert # 71020	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV, V	07/15/2028
Design Type			
[Safety Valve] SV7			
Capacity Tests: Sec. UV, V at National Board Testing Lab on July 30, 1997			
Method of Establishing Relieving Capacity: Flow Capacity, K			
Certified Value: 0.859 Unitless			
Media - Test: Steam; Certified: Air, Gas, Steam			
Set Pressure Definition: Pop			
Blowdown Characteristics: Adjustable			
Flow Area Configuration: Nozzle/Full Lift			
Designed by: Spirax-Sarco Limited {SSL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	0.328 in <sup>2</sup>	[F] 0.646 in	0.161 in	15-300 psi	Steam	UV
1.5 NPS	2 NPS	0.328 in <sup>2</sup>	[F] 0.646 in	0.161 in	15-300 psi	Steam	V
1.5 NPS	2 NPS	0.537 in <sup>2</sup>	[G] 0.827 in	0.207 in	15-300 psi	Steam	V

1.5 NPS	2 NPS	0.537 in <sup>2</sup>	[G] 0.827 in	0.207 in	15-300 psi	Steam	UV
1.5 NPS	2.5 NPS	0.841 in <sup>2</sup>	[H] 1.035 in	0.259 in	15-300 psi	Steam	UV
1.5 NPS	2.5 NPS	0.841 in <sup>2</sup>	[H] 1.035 in	0.259 in	15-300 psi	Steam	V
1.5-2 NPS	2.5 NPS	1.374 in <sup>2</sup>	[J] 1.323 in	0.33 in	15-300 psi	Steam	V
1.5-2 NPS	2.5 NPS	1.374 in <sup>2</sup>	[J] 1.323 in	0.33 in	15-300 psi	Steam	UV
2-2.5 NPS	3 NPS	1.968 in <sup>2</sup>	[K] 1.583 in	0.395 in	15-300 psi	Steam	V
2-2.5 NPS	3 NPS	1.968 in <sup>2</sup>	[K] 1.583 in	0.395 in	15-300 psi	Steam	UV
2.5-3 NPS	4 NPS	3.054 in <sup>2</sup>	[L] 1.972 in	0.493 in	15-300 psi	Steam	UV
2.5-3 NPS	4 NPS	3.054 in <sup>2</sup>	[L] 1.972 in	0.493 in	15-300 psi	Steam	V
3 NPS	4 NPS	3.846 in <sup>2</sup>	[M] 2.213 in	0.553 in	15-300 psi	Steam	V
3 NPS	4 NPS	3.846 in <sup>2</sup>	[M] 2.213 in	0.553 in	15-300 psi	Steam	UV
4 NPS	6 NPS	4.633 in <sup>2</sup>	[N] 2.429 in	0.607 in	15-300 psi	Steam	UV
4 NPS	6 NPS	4.633 in <sup>2</sup>	[N] 2.429 in	0.607 in	15-300 psi	Steam	V
4 NPS	6 NPS	6.83 in <sup>2</sup>	[P] 2.949 in	0.737 in	15-300 psi	Steam	V
4 NPS	6 NPS	6.83 in <sup>2</sup>	[P] 2.949 in	0.737 in	15-300 psi	Steam	UV
6 NPS	8 NPS	11.811 in <sup>2</sup>	[Q] 3.878 in	0.969 in	15-300 psi	Steam	UV
6 NPS	8 NPS	11.811 in <sup>2</sup>	[Q] 3.878 in	0.969 in	15-300 psi	Steam	V
6 NPS	8 NPS	17.121 in <sup>2</sup>	[R] 4.669 in	1.167 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.121 in <sup>2</sup>	[R] 4.669 in	1.167 in	15-300 psi	Steam	UV

## St. Gabriel Valve Service, LLC (SGV)

St. Gabriel, LA 70776United States

### This Company Manufactures or Assembles:

Design Name: 119 Series		NBCert # 11361	
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV, V	11/17/2026
Design Type			
[Safety Valve] 119 Series Capacity Tests: Sec. UV, V at National Board Testing Lab on March 5, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Air	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	UV
1.5 NPS	2.5 NPS	1.358 in <sup>2</sup>	[J] 1.315 in	0.329 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Air	UV

2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	UV
2-3 NPS	3 NPS	1.926 in <sup>2</sup>	[K] 1.566 in	0.392 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	NV
2.5-4 NPS	4 NPS	2.99 in <sup>2</sup>	[L] 1.951 in	0.488 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.774 in <sup>2</sup>	[M] 2.192 in	0.548 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.55 in <sup>2</sup>	[N] 2.407 in	0.602 in	15-250 psi	Steam	V
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Air	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	UV
4 NPS	6 NPS	6.692 in <sup>2</sup>	[P] 2.919 in	0.73 in	15-250 psi	Steam	V
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Air	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	UV
6 NPS	8 NPS	11.593 in <sup>2</sup>	[Q] 3.842 in	0.961 in	15-250 psi	Steam	V
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Air	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	UV
6 NPS	8 NPS	16.786 in <sup>2</sup>	[R] 4.623 in	1.156 in	15-250 psi	Steam	V

Design Name: 19 Series

NBCert # 11282

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	11/17/2026

#### Design Type

[Safety Valve] 19 Series  
Capacity Tests: Sec. UV, V at unknown lab on March 27, 1980  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.826 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.101 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.23 in <sup>2</sup>	[E] 0.541 in	0.135 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Air	UV



1.5-2 NPS	2 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-300 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.509 in <sup>2</sup>	[J] 1.386 in	0.347 in	15-300 psi	Steam	UV, V

Design Name:	500 Series	NBCert #	11462
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 01/17/2029

#### Design Type

[Safety Valve] 500 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on June 12, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.861 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Air	UV
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-2000 psi	Steam	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Air	UV
0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-2000 psi	Steam	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Air	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-2000 psi	Steam	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Air	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-2000 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-2000 psi	Steam	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Air	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-2000 psi	Steam	UV

Design Name:	500 Series (Liquids)	NBCert #	11473
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 01/17/2029

#### Design Type

[Safety Relief Valve] 500 Series (Liquids)  
Capacity Tests: Sec. UV at National Board Testing Lab on February 25, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.689 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aalberts Integrated Piping Systems Americas, Inc. {CNB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75, 1 NPS	0.129 in <sup>2</sup>	[D] 0.406 in	0.102 in	15-1000 psi	Water	UV

0.75-1 NPS	1.25 NPS	0.229 in <sup>2</sup>	[E] 0.539 in	0.135 in	15-1000 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.359 in <sup>2</sup>	[F] 0.676 in	0.169 in	15-1000 psi	Water	UV
1.25-1.5 NPS	2 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	15-1000 psi	Water	UV
1.5-2 NPS	2.5 NPS	0.919 in <sup>2</sup>	[H] 1.082 in	0.271 in	15-1000 psi	Water	UV
2 NPS	3 NPS	1.504 in <sup>2</sup>	[J] 1.384 in	0.346 in	15-1000 psi	Water	UV

## Suzhou BS&B Safety Systems Co., Ltd (SIP)

Suzhou, 215021 People's Republic of China

### This Company Manufactures or Assembles:

Design Name: AV		NBCert # 77341
Manufacturer/Assembler	Designators	Expiration Date

Manufacturer UD 11/21/2025

#### Design Type

[Rupture Disk Device] AV  
 Holder Designation: AV7R, AV-7RS, AV-7FS, AV-1, -2, -3, -4, -5, -6, -7, -8, -9  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on November 4, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 4.350 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS		78.85 in <sup>2</sup>			0.6-60 psi		UD
12 NPS		113.1 in <sup>2</sup>			0.6-60 psi		UD
14 NPS		137.9 in <sup>2</sup>			0.6-60 psi		UD
16 NPS		182.7 in <sup>2</sup>			0.6-60 psi		UD
18 NPS		233.7 in <sup>2</sup>			0.5-60 psi		UD
2 NPS		3.356 in <sup>2</sup>			5-150 psi		UD
2.5 NPS		4.787 in <sup>2</sup>			5-150 psi		UD
20 NPS		291 in <sup>2</sup>			0.5-60 psi		UD
22 NPS		354.7 in <sup>2</sup>			0.5-60 psi		UD
24 NPS		424.6 in <sup>2</sup>			0.5-60 psi		UD
26 NPS		500.7 in <sup>2</sup>			0.5-45 psi		UD
28 NPS		583.2 in <sup>2</sup>			0.5-45 psi		UD
3 NPS		7.392 in <sup>2</sup>			4-150 psi		UD
30 NPS		672 in <sup>2</sup>			0.5-45 psi		UD
32 NPS		767 in <sup>2</sup>			0.35-40 psi		UD
34 NPS		868.3 in <sup>2</sup>			0.35-40 psi		UD
36 NPS		975.9 in <sup>2</sup>			0.25-40 psi		UD
38 NPS		1090 in <sup>2</sup>			0.25-40 psi		UD

4 NPS	12.73 in <sup>2</sup>	2-150 psi	UD
40 NPS	1210 in <sup>2</sup>	0.25-40 psi	UD
42 NPS	1336 in <sup>2</sup>	0.25-40 psi	UD
44 NPS	1469 in <sup>2</sup>	0.25-40 psi	UD
46 NPS	1608 in <sup>2</sup>	0.25-40 psi	UD
48 NPS	1753 in <sup>2</sup>	0.25-40 psi	UD
5 NPS	20 in <sup>2</sup>	2-100 psi	UD
6 NPS	28.89 in <sup>2</sup>	1-100 psi	UD
8 NPS	50.02 in <sup>2</sup>	1-100 psi	UD

Design Name:	B, BR, BRR (liquid)	NBCert #	77318
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 09/17/2026

#### Design Type

[Rupture Disk Device] B, BR, BRR (liquid)  
HolderDesignation: FA-7R, FA-1 - FA9, UA-2,3,5,6  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on July 12, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 1.470 Unitless  
Media - Test: Air/Gas, Water/Liquid (Krl test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.189 in <sup>2</sup>			80-30000 psi		UD
1 NPS		0.801 in <sup>2</sup>			40-12000 psi		UD
1.5 NPS		1.76 in <sup>2</sup>			26-6000 psi		UD
10 NPS		78.85 in <sup>2</sup>			4-1400 psi		UD
12 NPS		112.5 in <sup>2</sup>			4-1000 psi		UD
14 NPS		137.9 in <sup>2</sup>			3-750 psi		UD
16 NPS		182.7 in <sup>2</sup>			3-500 psi		UD
18 NPS		233.7 in <sup>2</sup>			3-475 psi		UD
2 NPS		3.33 in <sup>2</sup>			16-6000 psi		UD
20 NPS		291 in <sup>2</sup>			2-450 psi		UD
24 NPS		424.6 in <sup>2</sup>			2-230 psi		UD
3 NPS		6.514 in <sup>2</sup>			12-6000 psi		UD
30 NPS		672 in <sup>2</sup>			2-184 psi		UD
32 NPS		767 in <sup>2</sup>			2-181 psi		UD
36 NPS		976 in <sup>2</sup>			6-160 psi		UD
4 NPS		11.82 in <sup>2</sup>			9-6000 psi		UD
40 NPS		1210 in <sup>2</sup>			6-145 psi		UD
42 NPS		1336 in <sup>2</sup>			3-138 psi		UD
44 NPS		1469 in <sup>2</sup>			6-132 psi		UD
6 NPS		28.84 in <sup>2</sup>			7-3600 psi		UD

Design Name: BV, BRV, BSV, BRSV		NBCert #	77026
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	06/26/2025
Design Type			
[Rupture Disk Device] BV, BRV, BSV, BRSV HolderDesignation: FA-7R, FA-7,FA-1,2,3,4,5,6,7,8,9,UA-2,3,5,6 Capacity Tests: Sec. UD at National Board Testing Lab on July 13, 1998 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 0.800 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: BS & B Safety Systems, LLC {BSB}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in²			145-12000 psi	Air	UD
1.5 NPS		1.44 in²			95-6000 psi	Air	UD
10 NPS		70.88 in²			14-1400 psi		UD
12 NPS		101.5 in²			12-1000 psi		UD
14 NPS		130.3 in²			11-750 psi		UD
16 NPS		176.7 in²			9-500 psi		UD
18 NPS		202.4 in²			8-475 psi		UD
2 NPS		2.24 in²			55-6000 psi	Air	UD
20 NPS		280 in²			8-450 psi		UD
24 NPS		380.1 in²			37-230 psi		UD
3 NPS		5.41 in²			41-6000 psi		UD
30 NPS		615.7 in²			20-184 psi		UD
32 NPS		728 in²			31-181 psi		UD
36 NPS		927 in²			28-160 psi		UD
4 NPS		9.62 in²			31-6000 psi		UD
40 NPS		1149 in²			25-145 psi		UD
42 NPS		1269 in²			24-138 psi		UD
44 NPS		1395 in²			23-132 psi		UD
6 NPS		23.76 in²			23-3600 psi		UD
8 NPS		44.18 in²			18-3600 psi		UD

Design Name: DV, D, DR, DRR, DRV		NBCert #	77048
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	07/10/2029

## Design Type

[Rupture Disk Device] DV, D, DR, DRR, DRV  
 HolderDesignation: FA-7R, FA-1F - 9F, UA-2,3,5,6, FF-\*  
 Capacity Tests: Sec. UD at National Board Testing Lab on September 15, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 1.190 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.69 in <sup>2</sup>			44-2000 psi		UD
1.5 NPS		1.62 in <sup>2</sup>			31-1400 psi		UD
10 NPS		74.6 in <sup>2</sup>			4-480 psi		UD
12 NPS		106 in <sup>2</sup>			3-400 psi		UD
14 NPS		135 in <sup>2</sup>			3-350 psi		UD
16 NPS		176 in <sup>2</sup>			3-300 psi		UD
18 NPS		223 in <sup>2</sup>			3-270 psi		UD
2 NPS		2.95 in <sup>2</sup>			15-1100 psi		UD
20 NPS		277 in <sup>2</sup>			3-240 psi		UD
24 NPS		397 in <sup>2</sup>			3-200 psi		UD
28 NPS	NPS	584 in <sup>2</sup>			3-170 psi	Air	UD
3 NPS		6.49 in <sup>2</sup>			11-900 psi		UD
30 NPS		661 in <sup>2</sup>			3-170 psi		UD
36 NPS		907 in <sup>2</sup>			3-170 psi		UD
4 NPS		11 in <sup>2</sup>			8-830 psi		UD
40 NPS		1120 in <sup>2</sup>			3-170 psi		UD
42 NPS		1234 in <sup>2</sup>			3-170 psi		UD
44 NPS		1355 in <sup>2</sup>			3-170 psi		UD
6 NPS		25.9 in <sup>2</sup>			6-640 psi		UD
8 NPS		47.1 in <sup>2</sup>			5-590 psi		UD

Design Name: DV, DRV, DSV, DRSV (liquids) NBCert # 77734

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/11/2026

## Design Type

[Rupture Disk Device] DV, DRV, DSV, DRSV (liquids)  
 HolderDesignation: FA-7R,FA-1F - FA-9F, UA-2,3,5,6, FF-\*  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 11, 2002  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 2.600 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.57 in <sup>2</sup>			44-2000 psi		UD

1.5 NPS	1.44 in <sup>2</sup>	31-1400 psi	UD
10 NPS	70.88 in <sup>2</sup>	4-480 psi	UD
12 NPS	101.5 in <sup>2</sup>	3-1000 psi	UD
14 NPS	130.3 in <sup>2</sup>	3-350 psi	UD
16 NPS	176.7 in <sup>2</sup>	3-300 psi	UD
18 NPS	202.3 in <sup>2</sup>	3-270 psi	UD
2 NPS	2.24 in <sup>2</sup>	15-1100 psi	UD
20 NPS	280 in <sup>2</sup>	3-240 psi	UD
24 NPS	380.1 in <sup>2</sup>	3-200 psi	UD
28 NPS	584 in <sup>2</sup>	3-170 psi	Air UD
3 NPS	5.41 in <sup>2</sup>	11-900 psi	UD
30 NPS	615.7 in <sup>2</sup>	3-170 psi	UD
32 NPS	728 in <sup>2</sup>	3-170 psi	UD
36 NPS	927 in <sup>2</sup>	3-170 psi	UD
4 NPS	9.62 in <sup>2</sup>	8-830 psi	UD
40 NPS	1149 in <sup>2</sup>	3-170 psi	UD
42 NPS	1269 in <sup>2</sup>	3-170 psi	UD
44 NPS	1395 in <sup>2</sup>	3-170 psi	UD
6 NPS	23.76 in <sup>2</sup>	6-640 psi	UD
8 NPS	44.18 in <sup>2</sup>	5-590 psi	UD

Design Name:	FRS	NBCert #	77284
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/12/2029

#### Design Type

[Rupture Disk Device] FRS  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, S90-7R, S90-7R-TR, SRI-7RS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 23, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.800 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			13.5-150 psi		UD
1.5 NPS		1.94 in <sup>2</sup>			11.5-70 psi		UD
2 NPS		3.36 in <sup>2</sup>			11.5-50 psi		UD

Design Name:	GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS	NBCert #	77611
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 02/11/2029

**Design Type**

[Rupture Disk Device] GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS  
HolderDesignation: GR-C, FM-C, not req'd for -SM  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on November 22, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.950 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.5 in <sup>2</sup>			10-300 psi	Air	UD
3 NPS		5.29 in <sup>2</sup>			10-175 psi		UD
4 NPS		9.78 in <sup>2</sup>			10-150 psi		UD
6 NPS		22.5 in <sup>2</sup>			10-75 psi		UD
48.3 DN	DN	2.38 in <sup>2</sup>	0 in	0 in	10-300 psi		UD
60.3 DN	DN	3.85 in <sup>2</sup>	0 in	0 in	10-175 psi		UD
76.1 DN	DN	6.33 in <sup>2</sup>	0 in	0 in	10-175 psi		UD

Design Name: GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS (liquids) NBCert # 78195

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/20/2028

**Design Type**

[Rupture Disk Device] GCR-S, SE, SM, SS, SES, SMS, SME, SMES, SW, N, NS (liquids)  
HolderDesignation: GR-C, FM-C (not req'd for SM)  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on October 5, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 2.750 Unitless  
Media - Test: Air/Gas, Water/Liquid (Krl test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.5 in <sup>2</sup>			10-300 psi		UD
3 NPS		5.29 in <sup>2</sup>			10-175 psi		UD
4 NPS		9.78 in <sup>2</sup>			10-150 psi		UD
6 NPS		22.5 in <sup>2</sup>			10-75 psi		UD
48.3 DN	DN	2.38 in <sup>2</sup>	0 in	0 in	10-300 psi		UD
60.3 DN	DN	3.85 in <sup>2</sup>	0 in	0 in	10-300 psi		UD
76.1 DN	DN	6.33 in <sup>2</sup>	0 in	0 in	10-300 psi		UD

Design Name: GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2" liquids) NBCert # 78207

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/20/2028

**Design Type**

[Rupture Disk Device] GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2" liquids)  
HolderDesignation: GR-C, FM-C, not req'd for -SM  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on June 25, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
Certified Value: 1.420 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.7 in <sup>2</sup>			10-300 psi	Water	UD

Design Name: GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2") NBCert # 77420

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

11/21/2025

**Design Type**

[Rupture Disk Device] GCR-S,SE,SM,SS,SES,SMS, SME, SMES, SW, N, NS (2")  
HolderDesignation: GR-C, FM-C, not req'd for -SM  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on January 10, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 1.250 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		2.7 in <sup>2</sup>			10-300 psi	Air	UD

Design Name: GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (1.5") NBCert # 77116

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

02/10/2029

**Design Type**

[Rupture Disk Device] GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (1.5")  
HolderDesignation: GRC  
Capacity Tests: Sec. UD at National Board Testing Lab on December 18, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg  
Certified Value: 9.920 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		0.79 in <sup>2</sup>			13.5-200 psi		UD

Design Name: GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (2") NBCert # 77127

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UD

12/20/2028



### Design Type

[Rupture Disk Device] GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW (2")  
HolderDesignation: GRC-C, FM-C, FT-C  
Capacity Tests: Sec. UD at National Board Testing Lab on December 19, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krgl  
Certified Value: 4.760 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS		1.77 in <sup>2</sup>			11.5-150 psi		UD

Design Name: GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW 1 1/2" Liquid NBCert # 77239

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UD

12/20/2028

### Design Type

[Rupture Disk Device] GFR-S, -SM, -SE, -SS, -SMS, -SES, -SW 1 1/2" Liquid  
HolderDesignation: GR-C  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on April 26, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
Certified Value:11.500 Unitless  
Media - Test: Air/Gas; Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		0.79 in <sup>2</sup>			13.5-200 psi		UD

Design Name: JRS NBCert # 77015

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UD

11/21/2025

### Design Type

[Rupture Disk Device] JRS  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRI-7RS  
Capacity Tests: Sec. UD at National Board Testing Lab on July 10, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.310 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			22-180 psi		UD
1.5 NPS		1.89 in <sup>2</sup>			20-150 psi		UD
10 NPS		68.65 in <sup>2</sup>			12-36 psi		UD
12 NPS		102.28 in <sup>2</sup>			12-33 psi		UD
14 NPS		121.86 in <sup>2</sup>			9-30 psi		UD
16 NPS		156 in <sup>2</sup>			7-28 psi		UD

18 NPS		198 in <sup>2</sup>			6-26 psi	UD
2 NPS		3.35 in <sup>2</sup>			18-120 psi	UD
20 NPS		246 in <sup>2</sup>			5-24 psi	UD
24 NPS		357 in <sup>2</sup>			5-22 psi	UD
3 NPS		6.53 in <sup>2</sup>			16-80 psi	UD
30 NPS		592 in <sup>2</sup>			5-14 psi	UD
32 NPS		706.9 in <sup>2</sup>			5-14 psi	UD
36 NPS		868 in <sup>2</sup>			5-14 psi	UD
4 NPS		11.86 in <sup>2</sup>			14-70 psi	UD
42 NPS		1111 in <sup>2</sup>			5-14 psi	UD
6 NPS		25.08 in <sup>2</sup>			12-50 psi	UD
8 NPS		42.07 in <sup>2</sup>			12-42 psi	UD
28 NPS	NPS	513 in <sup>2</sup>	0 in	0 in	5-18 psi	UD

Design Name:	RB-90	NBCert #	77138
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	11/21/2025

Design Type
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[Rupture Disk Device] RB-90  
HolderDesignation: RB-7R, RB-7F, RB-7FF, RB-7FS  
Capacity Tests: Sec. UD at National Board Testing Lab on February 19, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 3.470 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, LLC {BSB}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.831 in <sup>2</sup>			30-1800 psi		UD
1.5 NPS		1.805 in <sup>2</sup>			25-1700 psi		UD
10 NPS		67.62 in <sup>2</sup>			15-800 psi		UD
12 NPS		101.8 in <sup>2</sup>			15-800 psi		UD
14 NPS		121.7 in <sup>2</sup>			15-800 psi		UD
16 NPS		162.8 in <sup>2</sup>			15-800 psi		UD
18 NPS		209.99 in <sup>2</sup>			13-700 psi		UD
2 NPS		3.153 in <sup>2</sup>			22-1600 psi		UD
20 NPS		262.9 in <sup>2</sup>			13-700 psi		UD
24 NPS		386.9 in <sup>2</sup>			10-700 psi		UD
26 NPS		465 in <sup>2</sup>			10-700 psi		UD
28 NPS		530.7 in <sup>2</sup>			10-700 psi		UD
3 NPS		6.849 in <sup>2</sup>			21-1500 psi		UD
30 NPS		617.7 in <sup>2</sup>			10-700 psi		UD
32 NPS		698.4 in <sup>2</sup>			10-700 psi		UD
34 NPS		790.1 in <sup>2</sup>			10-700 psi		UD

36 NPS	872.8 in <sup>2</sup>	10-700 psi	UD
4 NPS	11.84 in <sup>2</sup>	20-1500 psi	UD
6 NPS	25.45 in <sup>2</sup>	20-850 psi	UD
8 NPS	47.68 in <sup>2</sup>	15-800 psi	UD

Design Name:	SRD & CCS	NBCert #	78229
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/12/2029

#### Design Type

[Rupture Disk Device] SRD & CCS  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SMR-7R, SR-7R, SPR-7R, S90-7R, S90-7R-TR, SRI-7RS, SRB-QRS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 19, 2016  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.590 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.84 in <sup>2</sup>			481-750 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			421-600 psi		UD
2 NPS		3.23 in <sup>2</sup>			421-500 psi		UD
3 NPS		6.44 in <sup>2</sup>			281-500 psi		UD
4 NPS		11.54 in <sup>2</sup>			271-500 psi		UD
6 NPS		26.44 in <sup>2</sup>			101-200 psi		UD
8 NPS		47.07 in <sup>2</sup>			76-150 psi		UD
10 NPS		73.94 in <sup>2</sup>		0 in	60-125 psi		UD
12 NPS		99.1 in <sup>2</sup>		0 in	45-90 psi		UD
24 NPS		334 in <sup>2</sup>		0 in	32-60 psi		UD

Design Name:	SRD & CCS (Liquid)	NBCert #	78230
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 01/12/2029

#### Design Type

[Rupture Disk Device] SRD & CCS (Liquid)  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SMR-7R, SR-7R, SPR-7R, S90-7R, S90-7R-TR, SRI-7RS, SRB-QRS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 19, 2016  
Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krl  
Certified Value: 4.000 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.84 in <sup>2</sup>			481-750 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			421-600 psi		UD

2 NPS	3.23 in <sup>2</sup>		421-500 psi	UD
3 NPS	6.44 in <sup>2</sup>		281-500 psi	UD
4 NPS	11.54 in <sup>2</sup>		271-500 psi	UD
6 NPS	26.44 in <sup>2</sup>		101-200 psi	UD
8 NPS	47.07 in <sup>2</sup>		76-150 psi	UD
10 NPS	73.94 in <sup>2</sup>	0 in	60-125 psi	UD
12 NPS	99.1 in <sup>2</sup>	0 in	45-90 psi	UD
24 NPS	334 in <sup>2</sup>	0 in	32-60 psi	UD

Design Name: SRD-L & CCS-L NBCert # 78241

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/12/2029

#### Design Type

[Rupture Disk Device] SRD-L & CCS-L  
HolderDesignation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SMR-7R, SR-7R, SPR-7R, S90-7R, S90-7R-TR, SRI-7RS, SRB-QRS  
Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on May 19, 2016  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 3.400 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.84 in <sup>2</sup>			75-480 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			75-420 psi		UD
2 NPS		3.23 in <sup>2</sup>			75-420 psi		UD
3 NPS		6.44 in <sup>2</sup>			45-280 psi		UD
4 NPS		11.54 in <sup>2</sup>			20-270 psi		UD
6 NPS		26.44 in <sup>2</sup>			20-100 psi		UD
8 NPS		47.07 in <sup>2</sup>			15-75 psi		UD
10 NPS		73.94 in <sup>2</sup>		0 in	13-60 psi		UD
12 NPS		99 in <sup>2</sup>		0 in	13-45 psi		UD
14 NPS		131 in <sup>2</sup>		0 in	12-40 psi		UD
16 NPS		172 in <sup>2</sup>		0 in	12-38 psi		UD
18 NPS		219 in <sup>2</sup>		0 in	10-36 psi		UD
20 NPS		270 in <sup>2</sup>		0 in	10-34 psi		UD
24 NPS		334 in <sup>2</sup>		0 in	10-32 psi		UD

Design Name: SRD-L & CCS-L (Liquid) NBCert # 78252

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/12/2029

**Design Type**

[Rupture Disk Device] SRD-L &amp; CCS-L (Liquid)

Holder Designation: SRB-7RS, SRB-7RS-TR, SRB-7FS, SRB-7FS-TR, SMR-7R, SR-7R, SPR-7R, S90-7R, S90-7R-TR, SRI-7RS, SRB-QRS

Capacity Tests: Sec. UD at BS &amp; B Safety Systems, LLC on May 19, 2016

Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl

Certified Value: 4.500 Unitless

Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)

Set Pressure Definition: Burst Pressure

Flow Area Configuration: MNFA

Designed by: BS &amp; B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.84 in <sup>2</sup>			75-480 psi		UD
1.5 NPS		1.77 in <sup>2</sup>			75-420 psi		UD
2 NPS		3.23 in <sup>2</sup>			75-420 psi		UD
3 NPS		6.44 in <sup>2</sup>			45-280 psi		UD
4 NPS		11.54 in <sup>2</sup>			20-270 psi		UD
6 NPS		26.44 in <sup>2</sup>			20-100 psi		UD
8 NPS		47.07 in <sup>2</sup>			15-75 psi		UD
10 NPS		73.94 in <sup>2</sup>		0 in	13-60 psi		UD
12 NPS		99 in <sup>2</sup>		0 in	13-45 psi		UD
14 NPS		131 in <sup>2</sup>		0 in	12-40 psi		UD
16 NPS		172 in <sup>2</sup>		0 in	12-38 psi		UD
18 NPS		219 in <sup>2</sup>		0 in	10-36 psi		UD
20 NPS		270 in <sup>2</sup>		0 in	10-36 psi		UD
24 NPS		334 in <sup>2</sup>		0 in	10-32 psi		UD

Design Name: XT (Liquid)

NBCert #

78094

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/11/2026

**Design Type**

[Rupture Disk Device] XT (Liquid)

Capacity Tests: Sec. UD at BS &amp; B Safety Systems, LLC on February 13, 2013

Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl

Certified Value: 0.500 Unitless

Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)

Set Pressure Definition: Burst Pressure

Flow Area Configuration: MNFA

Designed by: BS &amp; B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			250-1450 psi	Water	UD
1.5 NPS		2.03 in <sup>2</sup>			150-1450 psi	Water	UD
10 NPS		78.8 in <sup>2</sup>			60-840 psi	Water	UD
12 NPS		111 in <sup>2</sup>			60-720 psi	Water	UD
2 NPS		3.36 in <sup>2</sup>			150-1450 psi	Water	UD
3 NPS		7.39 in <sup>2</sup>			150-1300 psi	Water	UD
4 NPS		12.7 in <sup>2</sup>			80-1150 psi	Water	UD

6 NPS	28.8 in <sup>2</sup>	70-1040 psi	Water	UD
8 NPS	50 in <sup>2</sup>	60-960 psi	Water	UD

Design Name:	XT, XT Welded Assembly	NBCert #	77149
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 09/11/2026

#### Design Type

[Rupture Disk Device] XT, XT Welded Assembly  
 HolderDesignation: NX-7R, NF-7R, NF-7RS, TL-7R, TLP-7R  
 Capacity Tests: Sec. UD at BS & B Safety Systems, LLC on August 1, 2006  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.500 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: BS & B Safety Systems, Ltd. {BSI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 in	in	0.86 in <sup>2</sup>			80-1450 psi		UD
1.5 in	in	2.03 in <sup>2</sup>			55-1450 psi		UD
10 in	in	78.8 in <sup>2</sup>			60-840 psi		UD
12 in	in	111 in <sup>2</sup>			60-720 psi		UD
2 in	in	3.36 in <sup>2</sup>			45-1450 psi		UD
3 in	in	7.39 in <sup>2</sup>			45-1300 psi		UD
4 in	in	12.7 in <sup>2</sup>			40-1150 psi		UD
6 in	in	28.8 in <sup>2</sup>			40-1040 psi		UD
8 in	in	50 in <sup>2</sup>			40-960 psi		UD

#### SVC Inc. (SVK)

Gimpo-si, Gyeonggi-Do, 10117Republic of Korea

#### This Company Manufactures or Assembles:

Design Name:	SSR-S8100, SSR-S8100-B	NBCert #	94238
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/31/2029

#### Design Type

[Safety Relief Valve] SSR-S8100, SSR-S8100-B  
 Capacity Tests: Sec. UV at National Board Testing Lab on October 14, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.859 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: SVC Inc. {SVK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.5 NPS	.75-3 NPS	0.137 in <sup>2</sup>	[D] 0.418 in	0.105 in	15-2885 psi	Steam	UV
0.5-1.5 NPS	.75-3 NPS	0.137 in <sup>2</sup>	[D] 0.418 in	0.105 in	15-6000 psi	Air	UV
0.75-1.5 NPS	1-3 NPS	0.281 in <sup>2</sup>	[E] 0.598 in	0.15 in	15-2885 psi	Steam	UV
0.75-1.5 NPS	1-3 NPS	0.281 in <sup>2</sup>	[E] 0.598 in	0.15 in	15-6000 psi	Air	UV
1-2 NPS	2-3 NPS	0.377 in <sup>2</sup>	[F] 0.693 in	0.173 in	15-2885 psi	Steam	UV
1-2 NPS	2-3 NPS	0.377 in <sup>2</sup>	[F] 0.693 in	0.173 in	15-5000 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.595 in <sup>2</sup>	[G] 0.87 in	0.218 in	15-2885 psi	Steam	UV
1.5-2 NPS	2-3 NPS	0.595 in <sup>2</sup>	[G] 0.87 in	0.218 in	15-3700 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.921 in <sup>2</sup>	[H] 1.083 in	0.271 in	15-2060 psi	Steam	UV
1.5-2 NPS	2-3 NPS	0.921 in <sup>2</sup>	[H] 1.083 in	0.271 in	15-2750 psi	Air	UV
2-3 NPS	3-4 NPS	1.5 in <sup>2</sup>	[J] 1.382 in	0.346 in	15-2060 psi	Steam	UV
2-3 NPS	3-4 NPS	1.5 in <sup>2</sup>	[J] 1.382 in	0.346 in	15-2700 psi	Air	UV
3 NPS	4-6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.413 in	15-2060 psi	Steam	UV
3 NPS	4-6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.413 in	15-2220 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.514 in	15-1500 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.514 in	15-1500 psi	Steam	UV
4 NPS	6 NPS	4.19 in <sup>2</sup>	[M] 2.31 in	0.578 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.19 in <sup>2</sup>	[M] 2.31 in	0.578 in	15-1500 psi	Steam	UV
4 NPS	6 NPS	5.06 in <sup>2</sup>	[N] 2.538 in	0.635 in	15-1500 psi	Air	UV
4 NPS	6 NPS	5.06 in <sup>2</sup>	[N] 2.538 in	0.635 in	15-1500 psi	Steam	UV
4 NPS	6 NPS	7.42 in <sup>2</sup>	[P] 3.074 in	0.769 in	15-1500 psi	Air	UV
4 NPS	6 NPS	7.42 in <sup>2</sup>	[P] 3.074 in	0.769 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	13.05 in <sup>2</sup>	[Q] 4.076 in	1.019 in	15-1000 psi	Air	UV
6 NPS	8 NPS	13.05 in <sup>2</sup>	[Q] 4.076 in	1.019 in	15-1000 psi	Steam	UV
6 NPS	8-10 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.217 in	15-1000 psi	Air	UV
6 NPS	8-10 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.217 in	15-1000 psi	Steam	UV
8 NPS	10 NPS	31 in <sup>2</sup>	[T] 6.283 in	1.571 in	15-1000 psi	Air	UV
8 NPS	10 NPS	31 in <sup>2</sup>	[T] 6.283 in	1.571 in	15-1000 psi	Steam	UV
10 NPS	14 NPS	47.74 in <sup>2</sup>	[V] 7.796 in	1.949 in	15-500 psi	Steam	UV
10 NPS	14 NPS	47.74 in <sup>2</sup>	[V] 7.796 in	1.949 in	15-500 psi	Air	UV
12 NPS	16 NPS	74 in <sup>2</sup>	[W1] 9.707 in	2.427 in	15-500 psi	Air	UV
12 NPS	16 NPS	74 in <sup>2</sup>	[W1] 9.707 in	2.427 in	15-500 psi	Steam	UV
14 NPS	18 NPS	90.7 in <sup>2</sup>	[W2] 10.746 in	2.687 in	15-500 psi	Air	UV
14 NPS	18 NPS	90.7 in <sup>2</sup>	[W2] 10.746 in	2.687 in	15-500 psi	Steam	UV
16 NPS	18-20 NPS	114.7 in <sup>2</sup>	[W3] 12.085 in	3.021 in	15-500 psi	Air	UV
16 NPS	18-20 NPS	114.7 in <sup>2</sup>	[W3] 12.085 in	3.021 in	15-500 psi	Steam	UV
18 NPS	24 NPS	140.7 in <sup>2</sup>	[Y] 13.384 in	3.346 in	15-500 psi	Air	UV
18 NPS	24 NPS	140.7 in <sup>2</sup>	[Y] 13.384 in	3.346 in	15-500 psi	Steam	UV
18 NPS	24 NPS	156 in <sup>2</sup>	[Y2] 14.094 in	3.524 in	15-500 psi	Air	UV

18 NPS	24 NPS	156 in <sup>2</sup>	[Y2] 14.094 in	3.524 in	15-500 psi	Steam	UV
20 NPS	24 NPS	180.4 in <sup>2</sup>	[Z] 15.156 in	3.789 in	15-500 psi	Air	UV
20 NPS	24 NPS	180.4 in <sup>2</sup>	[Z] 15.156 in	3.789 in	15-500 psi	Steam	UV
20 NPS	24 NPS	192.1 in <sup>2</sup>	[Z2] 15.641 in	3.91 in	15-500 psi	Air	UV
20 NPS	24 NPS	192.1 in <sup>2</sup>	[Z2] 15.641 in	3.91 in	15-500 psi	Steam	UV

Design Name: SSRW-S8000, SSRW-S8000-B NBCert # 94160

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/31/2029

#### Design Type

[Relief Valve] SSRW-S8000, SSRW-S8000-B  
Capacity Tests: Sec. UV at National Board Testing Lab on June 5, 2003  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.668 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: SVC Inc. {SVK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[D] 0.374 in	0.112 in	15-6000 psi	Water	UV
1-1.5 NPS	2 - 2.5 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.148 in	15-6000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.307 in <sup>2</sup>	[F] 0.626 in	0.187 in	15-5000 psi	Water	UV
1.5-2 NPS	2.5, 3 NPS	0.503 in <sup>2</sup>	[G] 0.803 in	0.236 in	15-3700 psi	Water	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.296 in	15-2750 psi	Water	UV
2-3 NPS	3, 4 NPS	1.287 in <sup>2</sup>	[J] 1.283 in	0.374 in	15-2700 psi	Water	UV
3 NPS	4, 6 NPS	1.838 in <sup>2</sup>	[K] 1.531 in	0.443 in	15-2220 psi	Water	UV
3-4 NPS	4 , 6 NPS	2.853 in <sup>2</sup>	[L] 1.909 in	0.552 in	15-1500 psi	Water	UV
4 NPS	6 NPS	3.6 in <sup>2</sup>	[M] 2.142 in	0.62 in	15-1100 psi	Water	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.68 in	15-1000 psi	Water	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.827 in	15-1000 psi	Water	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.752 in	1.083 in	15-600 psi	Water	UV
6 NPS	8 NPS	16 in <sup>2</sup>	[R] 4.516 in	1.3 in	15-600 psi	Water	UV
8 NPS	10 NPS	26 in <sup>2</sup>	[T] 5.756 in	1.664 in	15-300 psi	Water	UV

Design Name: SSRW-S8100, SSRW-S8100-B NBCert # 94249

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 03/31/2029



## Design Type

[Relief Valve] SSRW-S8100, SSRW-S8100-B  
Capacity Tests: Sec. UV at National Board Testing Lab on October 14, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.700 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: SVC Inc. {SVK}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.5 NPS	.75-3 NPS	0.137 in <sup>2</sup>	[D] 0.418 in	0.125 in	15-6000 psi	Water	UV
0.75-1.5 NPS	1-3 NPS	0.281 in <sup>2</sup>	[E] 0.598 in	0.179 in	15-6000 psi	Water	UV
1-2 NPS	2,3 NPS	0.377 in <sup>2</sup>	[F] 0.693 in	0.208 in	15-5000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.595 in <sup>2</sup>	[G] 0.87 in	0.261 in	15-3700 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.921 in <sup>2</sup>	[H] 1.083 in	0.325 in	15-2750 psi	Water	UV
2-3 NPS	3,4 NPS	1.5 in <sup>2</sup>	[J] 1.382 in	0.415 in	15-2700 psi	Water	UV
3 NPS	4,6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.495 in	15-2220 psi	Water	UV
3-4 NPS	4,6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.617 in	15-1500 psi	Water	UV
4 NPS	6 NPS	4.19 in <sup>2</sup>	[M] 2.31 in	0.693 in	15-1500 psi	Water	UV
4 NPS	6 NPS	5.06 in <sup>2</sup>	[N] 2.538 in	0.761 in	15-1500 psi	Water	UV
4 NPS	6 NPS	7.42 in <sup>2</sup>	[P] 3.074 in	0.922 in	15-1500 psi	Water	UV
6 NPS	8 NPS	13.05 in <sup>2</sup>	[Q] 4.076 in	1.223 in	15-1000 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.46 in	15-1000 psi	Water	UV
8 NPS	10 NPS	31 in <sup>2</sup>	[T] 6.283 in	1.885 in	15-1000 psi	Water	UV
10 NPS	14 NPS	47.74 in <sup>2</sup>	[V] 7.796 in	2.339 in	15-500 psi	Water	UV
12 NPS	16 NPS	74 in <sup>2</sup>	[W1] 9.707 in	2.912 in	15-500 psi	Water	UV
14 NPS	18 NPS	90.7 in <sup>2</sup>	[W2] 10.746 in	3.224 in	15-500 psi	Water	UV
16 NPS	18, 20 NPS	114.7 in <sup>2</sup>	[W3] 12.085 in	3.626 in	15-500 psi	Water	UV
18 NPS	24 NPS	140.7 in <sup>2</sup>	[Y] 13.384 in	4.015 in	15-500 psi	Water	UV
18 NPS	24 NPS	156 in <sup>2</sup>	[Y2] 14.094 in	4.228 in	15-500 psi	Water	UV
20 NPS	24 NPS	180.4 in <sup>2</sup>	[Z] 15.156 in	4.547 in	15-500 psi	Water	UV
20 NPS	24 NPS	192.1 in <sup>2</sup>	[Z2] 15.641 in	4.692 in	15-500 psi	Water	UV

## Swan Associates, Inc (SWA)

Benicia, CA 94510United States

### This Company Manufactures or Assembles:

Design Name: 900 Series (Liquid), 7700, SNC		NBCert # 15499
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/11/2030

**Design Type**

[Relief Valve] 900 Series (Liquid), 7700, SNC  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.661 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/11/2030

**Design Type**

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V

1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

## Target Rock Business Unit of Curtiss-Wright Flow Control Corporation (TRC)

E. Farmingdale, NY 11735United States

### This Company Manufactures or Assembles:

Design Name:	2VRES-S-1	NBCert #	55280
Manufacturer/Assembler	Designators	Expiration Date	

Manufacturer	NV	10/25/2030
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### Design Type

[Vacuum Relief Valve] 2VRES-S-1  
Capacity Tests: Sec. NV at National Board Testing Lab on August 24, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method  
Certified Value:61.000 SCFM  
Media - Test: Air/Gas; Certified: Air, Gas

Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	Top NPS	0.478 in²	1.75 in		1-0 psi	Air	NV
Design Name: 67FNBCert # 55213							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			NV			03/01/2029	
Design Type							
[Pilot Operated Pressure Relief Valve] 67F Capacity Tests: Sec. NV at Ohio State University (Robinson Laboratory) on November 20, 1967 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.720 Unitless Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	10 NPS	12.56 in²	4 in	2.05 in	800-1200 psi	Steam	NV
6 NPS	10 NPS	18.89 in²	4.905 in	2.52 in	800-1200 psi	Steam	NV
6 NPS	10 NPS	18.93 in²	4.91 in	2.58 in	1000-1200 psi	Steam	NV
6 NPS	10 NPS	19.16 in²	4.94 in	2.58 in	1000-1200 psi	Steam	NV
6 NPS	10 NPS	19.87 in²	5.03 in	2.58 in	1000-1200 psi	Steam	NV
6 NPS	10 NPS	20.62 in²	5.125 in	2.78 in	1000-1200 psi	Steam	NV
Design Name: 69C, 0569C-001NBCert # 55224							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			NV			10/07/2027	
Design Type							
[Pilot Operated Pressure Relief Valve] 69C, 0569C-001 Capacity Tests: Sec. NV at Ohio State University (Robinson Laboratory) on August 17, 1969 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.742 Unitless Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	6 NPS	3.51 in²	2.443 in	0.98 in	2250-2485 psi	Steam	NV
Design Name: 6AB (Class 1,2 & 3)NBCert # 55099							
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			NV			03/01/2029	

**Design Type**

[Safety Valve] 6AB (Class 1,2 & 3)  
Capacity Tests: Sec. NV at National Board Testing Lab (Picaway) on October 22, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.769 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	10 NPS	17.34 in <sup>2</sup>	4.7 in	1.45 in	900-1400 psi	Steam	NV
6 NPS	8 NPS	18.19 in <sup>2</sup>	4.812 in	1.444 in	900-1400 psi	Steam	NV

Design Name: 6AC (Class 1,2 & 3) NBCert # 55101

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

NV

03/01/2029

**Design Type**

[Safety Valve] 6AC (Class 1,2 & 3)  
Capacity Tests: Sec. NV, UV at National Board Testing Lab (Picaway) on October 22, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 4.732 PPH/PSIA; (alternate medium): 1.684 SCFM/PSIA  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-3 NPS	1 - 4 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2900 psi	Air	NV
0.75-3 NPS	1 - 4 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2900 psi	Steam	NV

Design Name: 6AD, Liquids NBCert # 55291

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

NV

07/10/2030

**Design Type**

[Safety Relief Valve] 6AD, Liquids  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3 at unknown lab on June 22, 1983  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.080 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.125 in	50-3000 psi	Water	NV
0.75-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.125 in	50-3000 psi	Water	UV

Design Name: 6AH (Class 2 & 3)			NBCert # 55156				
Manufacturer/Assembler		Designators		Expiration Date			
Manufacturer		NV		03/01/2029			
Design Type							
[Safety Relief Valve] 6AH (Class 2 & 3) Capacity Tests: Sec. NV at National Board Testing Lab (Picaway) on June 17, 1982 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 6.670 PPH/PSIA; (alternate medium): 2.370 SCFM/PSIA Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.2485 in²	0.5625 in	0.178 in	100-160 psi	Air	NV
0.75 NPS	1 NPS	0.2485 in²	0.5625 in	0.178 in	100-160 psi	Steam	NV

Design Name: 6AK (78D016 Class 1, 2 & 3)		NBCert #	55167
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV	03/01/2029
Design Type			
[Safety Relief Valve] 6AK (78D016 Class 1, 2 & 3) Capacity Tests: Sec. NV at National Board Testing Lab (Picaway) on October 6, 1982 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:1475.0 SCFM Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}			

Design Name: 6AM		NBCert # 55347
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	10/25/2030
Design Type		
[Safety Relief Valve] 6AM Capacity Tests: Sec. NV at National Board Testing Lab on June 21, 1995 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.725 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}		

Design Name:	6AN	NBCert #	55369
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV 10/25/2030

#### Design Type

[Safety Relief Valve] 6AN  
Capacity Tests: Sec. NV at National Board Testing Lab on June 20, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.609 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-3 NPS	2 - 4 NPS	0.785 in <sup>2</sup>	1 in	0.33 in	40-3000 psi	Water	NV

Design Name:	6AO, 93R-024	NBCert #	55325
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV 10/25/2030

#### Design Type

[Safety Relief Valve] 6AO, 93R-024  
Capacity Tests: Sec. NV at National Board Testing Lab on June 21, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.422 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	10 NPS	18.67 in <sup>2</sup>	4.876 in	1.125 in	30-3000 psi	Water	NV

Design Name:	6AR	NBCert #	55303
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer NV 10/25/2030

#### Design Type

[Safety Relief Valve] 6AR  
Capacity Tests: Sec. NV at National Board Testing Lab (Picaway) on August 29, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.431 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	8 NPS	9.32 in <sup>2</sup>	4.3 in	0.69 in	30-150 psi	Water	NV

Design Name: 6AS		NBCert # 55314					
Manufacturer/Assembler		Designators		Expiration Date			
Manufacturer		NV		10/25/2030			
Design Type							
[Safety Relief Valve] 6AS Capacity Tests: Sec. NV at National Board Testing Lab on August 29, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.445 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	4 NPS	3.768 in²	2.438 in	0.49 in	50-150 psi	Water	NV

Design Name: 6AU			NBCert # 55381				
Manufacturer/Assembler		Designators		Expiration Date			
Manufacturer		NV		01/25/2027			
Design Type							
[Relief Valve] 6AU Capacity Tests: Sec. NV, UV at National Board Testing Lab on December 1, 1999 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.410 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 - 2.5 NPS	0.049 in²	0.25 in		50-3000 psi	Water	NV

Design Name: 6AV		NBCert # 55392					
Manufacturer/Assembler		Designators		Expiration Date			
Manufacturer		NV		09/27/2030			
Design Type							
[Safety Relief Valve] 6AV Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3 at National Board Testing Lab on March 9, 2000 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.791 Unitless Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
8 NPS	10 NPS	18.47 in²	4.85 in	1.45 in	1100-1250 psi	Steam	NV



Design Name:	6AW (98V-005-3)	NBCert #	55415
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	07/07/2027

#### Design Type

[Safety Relief Valve] 6AW (98V-005-3)  
Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on June 9, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method  
Certified Value: 0.617 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.196 in <sup>2</sup>	0.5 in	0.199 in	1544-1544 psi	Water	NV

Design Name:	6AX (98V-005-2)	NBCert #	55426
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	06/09/2027

#### Design Type

[Safety Relief Valve] 6AX (98V-005-2)  
Capacity Tests: Sec. NV at National Board Testing Lab on June 9, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method  
Certified Value:794.00 SCFM  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2.5 NPS	0.196 in <sup>2</sup>	0.5 in	0.166 in	219-219 psi	Air	NV

Design Name:	6AY (97N-006)	NBCert #	55437
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	06/09/2027

#### Design Type

[Safety Relief Valve] 6AY (97N-006)  
Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on June 9, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method  
Certified Value:257.00 GPM  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	6 NPS	4.987 in <sup>2</sup>	2.52 in	0.8 in	3-0 psi	Water	NV

Design Name:	6AZ (97N-014)	NBCert #	55505
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	08/01/2027

#### Design Type

[Safety Relief Valve] 6AZ (97N-014)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3 at National Board Testing Lab on July 14, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method  
Certified Value:673.00 SCFM  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	2.4 in <sup>2</sup>	1.75 in	0.685 in	8-0 psi	Air	NV

Design Name:	6BA (97N-016)	NBCert #	55493
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	11/03/2027

#### Design Type

[Vacuum Relief Valve] 6BA (97N-016)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3 at National Board Testing Lab on November 3, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method  
Certified Value:1155.0 SCFM  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	4 NPS	12.75 in <sup>2</sup>	4.25 in	1.5 in	0.25-0 psi	Air	NV

Design Name:	6BB	NBCert #	55516
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	02/13/2029

#### Design Type

[Vacuum Relief Valve] 6BB  
Capacity Tests: Sec. NV at National Board Testing Lab on January 30, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method  
Certified Value:516.00 SCFM  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	4 NPS	11.04 in <sup>2</sup>	3.75 in		0.2-0 psi	Air	NV

Design Name:	6BC	NBCert #	55527
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	10/31/2025

#### Design Type

[Safety Relief Valve] 6BC  
Capacity Tests: Sec. NV at National Board Testing Lab on October 31, 2003  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.782 SCFM/PSIA; (alternate medium): 2.197 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.083 in	25-1500 psi	Steam	NV
0.75 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.083 in	25-3000 psi	Air	NV

Design Name:	6BD	NBCert #	55538
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	03/20/2026

#### Design Type

[Safety Valve] 6BD  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3 at National Board Testing Lab on February 20, 2009  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.722 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	10 NPS	17.34 in <sup>2</sup>	4.7 in	1.18 in	1100-1350 psi	Steam	NV

Design Name:	6BE (08U-007)	NBCert #	55549
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	05/27/2029

#### Design Type

[Vacuum Relief Valve] 6BE (08U-007)  
Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on May 27, 2011  
Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method  
Certified Value: 91.000 SCFM  
Media - ; Certified: Air, Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	1.5 NPS	1.41 in <sup>2</sup>	1.34 in	0.37 in	-0.3 psi	Air	NV

Design Name: 6BF (08U-017)		NBCert #	55550
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV	05/05/2029
Design Type			
[Vacuum Relief Valve] 6BF (08U-017) Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on May 5, 2011 Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method Certified Value:151.00 SCFM Media - ; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.227 in <sup>2</sup>	1.75 in	0.51 in	-3 psi	Air	NV

Design Name: 6BG (08U-011)		NBCert #	55561
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV	07/08/2029
Design Type			
[Vacuum Relief Valve] 6BG (08U-011) Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on July 8, 2011 Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method Certified Value:1051.0 SCFM Media - ; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS		12.7 in <sup>2</sup>	4.03 in	1.5 in	-0.3 psi	Air	NV

Design Name: 6BH		NBCert #	55123
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		NV	07/14/2026
Design Type			
[Vacuum Relief Valve] 6BH Capacity Tests: Sec. NV, -Class 2, -Class 3 at National Board Testing Lab on July 14, 2014 Method of Establishing Relieving Capacity: Flow Capacity, Single Valve Method Certified Value:632.00 SCFM Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
	4 in	5.5 in <sup>2</sup>	4.25 in	0.7 in	-0.3 psi	Air	NV

Design Name: 7567F		NBCert # 55246
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	03/01/2029
Design Type		
[Pilot Operated Pressure Relief Valve] 7567F Capacity Tests: Sec. NV at Ohio State University (Robinson Laboratory) on November 20, 1967 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.720 Unitless Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	10 NPS	12.56 in <sup>2</sup>	4 in	2.05 in	800-1200 psi	Steam	NV
6 NPS	10 NPS	18.89 in <sup>2</sup>	4.905 in	2.52 in	800-1200 psi	Steam	NV
6 NPS	10 NPS	18.93 in <sup>2</sup>	4.91 in	2.58 in	1000-1200 psi	Steam	NV
6 NPS	10 NPS	19.16 in <sup>2</sup>	4.94 in	2.58 in	1000-1200 psi	Steam	NV
6 NPS	10 NPS	19.87 in <sup>2</sup>	5.03 in	2.58 in	1000-1200 psi	Steam	NV
6 NPS	10 NPS	20.62 in <sup>2</sup>	5.125 in	2.78 in	1000-1200 psi	Steam	NV

Design Name: 76A		NBCert # 55235
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	03/01/2029
Design Type		
[Safety Valve] 76A Capacity Tests: Sec. NV at National Board Testing Lab (Picaway) on June 23, 1977 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.778 Unitless Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	4 NPS	2.048 in <sup>2</sup>	1.615 in	0.53 in	50-1600 psi	Steam	NV
4 NPS	6 NPS	3.464 in <sup>2</sup>	2.1 in	0.69 in	50-1600 psi	Steam	NV
6 NPS	10 NPS	15.904 in <sup>2</sup>	4.5 in	1.475 in	50-1600 psi	Steam	NV

Design Name: 93R-022A		NBCert # 55370
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	03/01/2029

Design Type

[Safety Relief Valve] 93R-022A  
Capacity Tests: Sec. NV at National Board Testing Lab on December 5, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.540 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Target Rock Business Unit of Curtiss-Wright Flow Control Corporation {TRC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	0.607 in²	1.33 in	0.145 in	15-1000 psi	Water	NV

Taylor Valve Technology, Inc (TTS)Nameplate Abbreviation: Taylor Valve

Oklahoma City, OK 73128United States

This Company Manufactures or Assembles:

Design Name: 1500 Series (Air)		NBCert #	02530
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/17/2030

Design Type

[Safety Relief Valve] 1500 Series (Air)  
Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date}  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.863 Unitless  
Media - Test: Air/Gas; Certified: Air  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75 - 1 NPS	0.058 in²	[C] 0.272 in	0.091 in	15-8000 psi	Air	UV
0.75-1.5 NPS	0.75 - 1.5 NPS	0.129 in²	[D] 0.405 in	0.135 in	15-8000 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.23 in²	[E] 0.541 in	0.18 in	15-8000 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.366 in²	[F] 0.683 in	0.228 in	15-6400 psi	Air	UV
1.5-2 NPS	2 NPS	0.59 in²	[G] 0.867 in	0.289 in	15-1500 psi	Air	UV

Design Name: 1500 Series (Liquid)		NBCert #	02541
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	04/17/2030

Design Type

[Relief Valve] 1500 Series (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date}  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.659 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75 - 1 NPS	0.058 in²	[C] 0.272 in	0.091 in	15-8000 psi	Water	UV
0.75-1.5 NPS	0.75 - 1.5 NPS	0.129 in²	[D] 0.405 in	0.135 in	15-8000 psi	Water	UV
1-2 NPS	1.5 - 2 NPS	0.23 in²	[E] 0.541 in	0.18 in	15-8000 psi	Water	UV
1-2 NPS	1.5 - 2 NPS	0.366 in²	[F] 0.683 in	0.228 in	15-6400 psi	Water	UV
1.5-2 NPS	2 NPS	0.59 in²	[G] 0.867 in	0.289 in	15-1500 psi	Water	UV

Design Name:	19-311000	NBCert #	56393
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/08/2026

Design Type

[Safety Relief Valve] 19-311000  
Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date}  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.030 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.196 in²	0.5 in	0.16 in	50-1600 psi	Air	UV

Design Name:	19-311000 (Liquid)	NBCert #	56405
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/08/2026

Design Type

[Relief Valve] 19-311000 (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date}  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 4.790 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 NPS	0.196 in²	0.5 in	0.16 in	50-1600 psi	Water	UV

Design Name: 19-312000		NBCert # 56416
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/08/2026
Design Type		
[Safety Relief Valve] 19-312000 Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Annulus Designed by: Taylor Valve Technology, Inc {TTS}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.5 in	0.09 in	50-1600 psi	Air	UV

Design Name: 19-312000 (Liquid)		NBCert # 56427
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	09/08/2026
Design Type		
[Safety Relief Valve] 19-312000 (Liquid) Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Annulus Designed by: Taylor Valve Technology, Inc {TTS}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.5 in	0.09 in	50-1600 psi	Water	UV

Design Name: 2500 Series (Air)		NBCert # 02552
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/17/2030
Design Type		
[Safety Relief Valve] 2500 Series (Air) Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date} Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.868 Unitless Media - Test: Air/Gas; Certified: Air Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Taylor Valve Technology, Inc {TTS}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.5 NPS	2 NPS	0.317 in <sup>2</sup>	[F] 0.635 in	0.172 in	15-1480 psi	Air	UV
1.5-1.5 NPS	2.5 - 3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.23 in	15-1480 psi	Air	UV
1.5-2 NPS	3 NPS	0.911 in <sup>2</sup>	[H] 1.077 in	0.292 in	15-1480 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.369 in	15-1480 psi	Air	UV
3-3 NPS	4 NPS	2.125 in <sup>2</sup>	[K] 1.645 in	0.446 in	15-1480 psi	Air	UV



3-4 NPS	4 - 6 NPS	3.281 in <sup>2</sup>	[L] 2.044 in	0.554 in	15-1000 psi	Air	UV
4-4 NPS	6 NPS	4.047 in <sup>2</sup>	[M] 2.27 in	0.615 in	15-1000 psi	Air	UV
4-4 NPS	6 NPS	4.988 in <sup>2</sup>	[N] 2.52 in	0.775 in	15-1000 psi	Air	UV
4-4 NPS	6 NPS	7.33 in <sup>2</sup>	[P] 3.055 in	0.828 in	15-1000 psi	Air	UV
6-6 NPS	8 NPS	12.699 in <sup>2</sup>	[Q] 4.021 in	1.09 in	15-600 psi	Air	UV
6-6 NPS	8 NPS	18.383 in <sup>2</sup>	[R] 4.838 in	1.21 in	15-300 psi	Air	UV
8-8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	1.626 in	15-120 psi	Air	UV

Design Name:	2500 Series (Liquid)	NBCert #	02563
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 04/17/2030

#### Design Type

[Safety Valve] 2500 Series (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date}  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.664 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.5 NPS	2 NPS	0.317 in <sup>2</sup>	[F] 0.635 in	0.172 in	15-1480 psi	Water	UV
1.5-1.5 NPS	2.5 - 3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.23 in	15-1480 psi	Water	UV
1.5-2 NPS	3 NPS	0.911 in <sup>2</sup>	[H] 1.077 in	0.292 in	15-1480 psi	Water	UV
2-3 NPS	3 - 4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.369 in	15-1480 psi	Water	UV
3-3 NPS	4 NPS	2.125 in <sup>2</sup>	[K] 1.645 in	0.446 in	15-1480 psi	Water	UV
3-4 NPS	4 - 6 NPS	3.281 in <sup>2</sup>	[L] 2.044 in	0.554 in	15-1000 psi	Water	UV
4-4 NPS	6 NPS	4.047 in <sup>2</sup>	[M] 2.27 in	0.615 in	15-1000 psi	Water	UV
4-4 NPS	6 NPS	4.988 in <sup>2</sup>	[N] 2.52 in	0.775 in	15-1000 psi	Water	UV
4-4 NPS	6 NPS	7.33 in <sup>2</sup>	[P] 3.055 in	0.828 in	15-1000 psi	Water	UV
6-6 NPS	8 NPS	12.699 in <sup>2</sup>	[Q] 4.021 in	1.09 in	15-600 psi	Water	UV
6-6 NPS	8 NPS	18.383 in <sup>2</sup>	[R] 4.838 in	1.21 in	15-300 psi	Water	UV
8-8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	1.626 in	15-120 psi	Water	UV

Design Name:	2500 Series DR (25MDR, 25SDR, B25DR) (Air)	NBCert #	02596
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 04/17/2030

### Design Type

[Safety Relief Valve] 2500 Series DR (25MDR, 25SDR, B25DR) (Air)  
Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date}  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.580 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	2 NPS	0.16 in <sup>2</sup>	[DR] 0.635 in	0.08 in	15-1480 psi	Air	UV

Design Name: 2500 Series DR (25MDR, 25SDR, B25DR) (Liquid) NBCert # 02608

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/17/2030

### Design Type

[Relief Valve] 2500 Series DR (25MDR, 25SDR, B25DR) (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date}  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 4.590 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	2 NPS	0.16 in <sup>2</sup>	[DR] 0.635 in	0.08 in	15-1480 psi	Water	UV

Design Name: 2500 Series ER (25MER, 25SER, B25ER) (Air) NBCert # 02574

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/17/2030

### Design Type

[Safety Relief Valve] 2500 Series ER (25MER, 25SER, B25ER) (Air)  
Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date}  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.520 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	2 NPS	0.219 in <sup>2</sup>	[ER] 0.635 in	0.11 in	15-1480 psi	Air	UV

Design Name: 2500 Series ER (25MER, 25SER, B25ER) (Liquid) NBCert # 02585

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/17/2030

### Design Type

[Relief Valve] 2500 Series ER (25MER, 25SER, B25ER) (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date}  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.910 GPM/SQ. RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS	2 NPS	0.219 in <sup>2</sup>	[ER] 0.635 in	0.11 in	15-1480 psi	Water	UV

Design Name: 82-005000 NBCert # 56180

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

06/23/2025

### Design Type

[Safety Relief Valve] 82-005000  
Capacity Tests: Sec. UV at National Board Testing Lab on June 23, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.080 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS	1, 1.5 NPS	0.212 in <sup>2</sup>	0.52 in	0.19 in	15-2500 psi	Air	UV

Design Name: 82-007000 NBCert # 56247

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

11/13/2025

### Design Type

[Safety Relief Valve] 82-007000  
Capacity Tests: Sec. UV at National Board Testing Lab on August 19, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 14.000 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-2 NPS	2 NPS	0.913 in <sup>2</sup>	1.078 in	0.41 in	15-2000 psi	Air	UV

Design Name: 83-001000 (Air and Gas) NBCert # 56203

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

UV

08/04/2025

**Design Type**

[Safety Relief Valve] 83-001000 (Air and Gas)  
Capacity Tests: Sec. UV at National Board Testing Lab on July 27, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:21.200 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5-3 NPS	3 NPS	1.431 in <sup>2</sup>	1.35 in	0.58 in	15-1500 psi	Air	UV

Design Name: 83-002000 (Air and Gas) NBCert # 56214

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

10/22/2025

**Design Type**

[Safety Relief Valve] 83-002000 (Air and Gas)  
Capacity Tests: Sec. UV at National Board Testing Lab on October 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:29.030 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5-3 NPS	3 NPS	2.138 in <sup>2</sup>	1.65 in	0.65 in	15-1000 psi	Air	UV

Design Name: 9300, 9300M NBCert # 56315

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

02/03/2031

**Design Type**

[Pilot Operated Pressure Relief Valve] 9300, 9300M  
Capacity Tests: Sec. UV at National Board Testing Lab on April 23, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.202 in	15-3705 psi	Air	UV
1-1.5 NPS	2 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.26 in	15-3705 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.337 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.388 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.539 in	15-3705 psi	Air	UV
2-3 NPS	3, 4 NPS	1.431 in <sup>2</sup>	[J] 1.35 in	0.675 in	15-2000 psi	Air	UV

3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.825 in	15-2000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	1.01 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	1.14 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	1.25 in	15-2000 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.5 in	15-1480 psi	Air	UV
6 NPS	8 NPS	12.566 in <sup>2</sup>	[Q] 4 in	2 in	15-1480 psi	Air	UV
6 NPS	8 NPS	17.721 in <sup>2</sup>	[R] 4.75 in	2.375 in	15-1480 psi	Air	UV
8 NPS	10 NPS	25.967 in <sup>2</sup>	[T] 5.75 in	2.875 in	15-1480 psi	Air	UV

Design Name:	9300FB	NBCert #	56326
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/13/2031

#### Design Type

[Pilot Operated Pressure Relief Valve] 9300FB  
Capacity Tests: Sec. UV at National Board Testing Lab on July 31, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.774 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	1.5 in	0.75 in	15-2000 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	1.939 in	0.97 in	15-2000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	2.9 in	1.45 in	15-1480 psi	Air	UV
4 NPS	6 NPS	11.491 in <sup>2</sup>	3.825 in	1.915 in	15-1480 psi	Air	UV
6 NPS	8 NPS	26.067 in <sup>2</sup>	5.761 in	2.88 in	15-1480 psi	Air	UV
8 NPS	10 NPS	45.664 in <sup>2</sup>	7.625 in	3.812 in	15-1480 psi	Air	UV

Design Name:	9300M	NBCert #	56371
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 02/02/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 9300M  
Capacity Tests: Sec. UV at National Board Testing Lab on September 15, 2011  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.829 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.202 in	15-3705 psi	Water	UV
1-1.5 NPS	2 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.26 in	15-3705 psi	Water	UV

1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.337 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.388 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.539 in	15-3705 psi	Water	UV
2-3 NPS	3, 4 NPS	1.431 in <sup>2</sup>	[J] 1.35 in	0.675 in	15-2000 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.825 in	15-2000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	1.01 in	15-2000 psi	Water	UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	1.145 in	15-2000 psi	Water	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	1.25 in	15-2000 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.5 in	15-1480 psi	Water	UV
6 NPS	8 NPS	12.566 in <sup>2</sup>	[Q] 4 in	2 in	15-1480 psi	Water	UV
6 NPS	8 NPS	17.721 in <sup>2</sup>	[R] 4.75 in	2.375 in	15-1480 psi	Water	UV
8 NPS	10 NPS	25.967 in <sup>2</sup>	[T] 5.75 in	2.875 in	15-1480 psi	Water	UV

Design Name: Model C- Rupture Pin Relief Valve (Liquid) NBCert # 56641

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer

UD

11/14/2030

#### Design Type

[Buckling Pin Non-reclosing Device] Model C- Rupture Pin Relief Valve (Liquid)  
Capacity Tests: Sec. UD at National Board Testing Lab on October 15, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.595 Unitless  
Media - ; Certified: Liquid  
Set Pressure Definition: Buckling Pressure  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Taylor Valve Technology, Inc {TTS}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	1.5, 2 NPS	1.77 in <sup>2</sup>	1.5 in	0.85 in	15-1480 psi	Water	UD
2 NPS	2, 3 NPS	2.95 in <sup>2</sup>	1.94 in	0.9 in	15-1480 psi	Water	UD
3 NPS	3, 4 NPS	6.6 in <sup>2</sup>	2.9 in	1.48 in	15-1480 psi	Water	UD
4 NPS	4, 6 NPS	11.49 in <sup>2</sup>	3.826 in	1.71 in	15-1480 psi	Water	UD
6 NPS	6, 8 NPS	26.05 in <sup>2</sup>	5.761 in	2.19 in	15-1480 psi	Water	UD
8 NPS	8, 10 NPS	45.64 in <sup>2</sup>	7.625 in	2.66 in	15-1480 psi	Water	UD
10 NPS	10, 12 NPS	74.62 in <sup>2</sup>	9.75 in	3.19 in	15-1480 psi	Water	UD
12 NPS	12, 14 NPS	108.38 in <sup>2</sup>	11.75 in	3.69 in	15-1480 psi	Water	UD
14 NPS	14, 16 NPS	132.67 in <sup>2</sup>	13 in	4 in	15-740 psi	Water	UD
16 NPS	16, 18 NPS	176.63 in <sup>2</sup>	15 in	4.5 in	15-740 psi	Water	UD
18 NPS	18, 20 NPS	226.87 in <sup>2</sup>	17 in	5 in	15-740 psi	Water	UD
20 NPS	20, 24 NPS	283.39 in <sup>2</sup>	19 in	5.5 in	15-285 psi	Water	UD
24 NPS	24, 30 NPS	415.27 in <sup>2</sup>	23 in	6.5 in	15-285 psi	Water	UD
30 NPS	30, 36 NPS	660.19 in <sup>2</sup>	29 in	8 in	15-285 psi	Water	UD

Benicia, CA 94510United States

**This Company Manufactures or Assembles:**

Design Name:	2600 & 2600S	NBCert #	57057
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/02/2029

**Design Type**

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV

6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

11/28/2028

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV



2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids) NBCert # 57068

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/28/2028

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V

4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/02/2029

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/02/2029

#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name:	900 Series (Liquid), 7700, SNC	NBCert #	15499
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/12/2025

#### Design Type

[Relief Valve] 900 Series (Liquid), 7700, SNC  
Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 9, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.661 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	NV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Water	UV, V
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	NV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Water	UV, V
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	NV

1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Water	UV, V
1-1.5 NPS	1.5 - 2 NPS	0.2951 in <sup>2</sup>	0.613 in	0.265 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	NV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Water	UV, V
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	NV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Water	UV, V

Design Name: 900 Series, 7700, SNC NBCert # 15411

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/31/2026

#### Design Type

[Safety Relief Valve] 900 Series, 7700, SNC  
Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on February 14, 1990  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-10000 psi	Air	UV
0.5-1 NPS	.5 - 1 NPS	0.0551 in <sup>2</sup>	[#10] 0.265 in	0.074 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.0845 in <sup>2</sup>	[#5] 0.328 in	0.106 in	15-2900 psi	Steam	NV, UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-10000 psi	Air	UV
0.5-1 NPS	1 - 1.5 NPS	0.1244 in <sup>2</sup>	[#6] 0.398 in	0.128 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-2900 psi	Steam	NV, UV
1-2 NPS	1.5 - 2 NPS	0.2198 in <sup>2</sup>	[#7] 0.529 in	0.17 in	15-5000 psi	Air	UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-2900 psi	Steam	NV, UV
1.5-2 NPS	2 NPS	0.3473 in <sup>2</sup>	[#8] 0.665 in	0.215 in	15-5000 psi	Air	UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-2900 psi	Steam	NV, UV
1.5 NPS	2.5 NPS	0.5674 in <sup>2</sup>	[#9] 0.85 in	0.274 in	15-5000 psi	Air	UV

Design Name: H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, NBCert # 15006  
HSA, HSB, HSC, HSP)

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	02/07/2026

#### Design Type

[Safety Valve] H Series (HCI, HSJ, HCA, HA, HB, HC, HCB, HCP, HJO, HN, HNA, HNB, HNP, HS, HSA, HSB, HSC, HSP)  
Capacity Tests: Sec. UV, V at unknown lab on September 1, 1939  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-500 psi	Steam	UV, V
0.75 NPS	1.5 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-500 psi	Steam	UV, V
1-1.5 NPS	2 - 3 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-3100 psi	Steam	UV, V
1-2 NPS	2.5, 3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-3100 psi	Steam	UV, V
1.5-2 NPS	3, 4, 6 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-5000 psi	Steam	UV, V
1.5 NPS	3 NPS	0.865 in <sup>2</sup>	1.05 in	0.262 in	15-3100 psi	Steam	UV, V
1.5 NPS	3 NPS	0.994 in <sup>2</sup>	[H2] 1.125 in	0.281 in	15-3100 psi	Steam	UV, V
2-3 NPS	3, 4, 6 NPS	1.288 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-5000 psi	Steam	UV, V
2 NPS	4 NPS	1.431 in <sup>2</sup>	[J2] 1.35 in	0.338 in	15-3100 psi	Steam	UV, V
2.5-3 NPS	4, 6 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-6000 psi	Steam	UV, V
2.5 NPS	6 NPS	2.545 in <sup>2</sup>	[K2] 1.8 in	0.45 in	15-6000 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.476 in	15-3100 psi	Steam	UV, V
3 NPS	6 NPS	3.341 in <sup>2</sup>	[L2] 2.062 in	0.516 in	15-3100 psi	Steam	UV, V
3-4 NPS	6, 8 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-6000 psi	Steam	UV, V
3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[M2] 2.25 in	0.563 in	15-6000 psi	Steam	UV, V
4 NPS	6 NPS	4.341 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-3100 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.712 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	7.07 in <sup>2</sup>	[P2] 3 in	0.75 in	15-3100 psi	Steam	UV, V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.937 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q2] 3.95 in	0.988 in	15-3100 psi	Steam	UV, V
6 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.513 in	1.128 in	15-3100 psi	Steam	UV, V
6 NPS	10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.239 in	15-3100 psi	Steam	UV, V
8 NPS	10, 12 NPS	26 in <sup>2</sup>	[T] 5.75 in	1.437 in	15-500 psi	Steam	UV, V
8 NPS	12, 14 NPS	28.274 in <sup>2</sup>	6 in	1.5 in	15-2000 psi	Steam	UV, V
10 NPS	14 NPS	44.18 in <sup>2</sup>	7.5 in	1.875 in	15-500 psi	Steam	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	9 in	2.25 in	15-500 psi	Steam	UV, V
14 NPS	18 NPS	86.59 in <sup>2</sup>	10.5 in	2.625 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	95.21 in <sup>2</sup>	11.01 in	2.753 in	15-500 psi	Steam	UV, V
16 NPS	18, 20 NPS	114.04 in <sup>2</sup>	12.05 in	3.02 in	15-500 psi	Steam	UV, V
18 NPS	24 NPS	143.14 in <sup>2</sup>	13.5 in	3.375 in	15-500 psi	Steam	UV, V
20 NPS	24 NPS	176.71 in <sup>2</sup>	15 in	3.75 in	15-500 psi	Steam	UV, V

Design Name: JLT-JOS/JLT-JBS/JLT-JDS (Liquids) NBCert # 15095

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/12/2025

## Design Type

[Safety Relief Valve] JLT-JOS/JLT-JBS/JLT-JDS (Liquids)  
 Capacity Tests: Sec. NV, UV, V at Crosby Valve, LLC on February 5, 1980  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.656 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	NV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.151 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.205 in	15-6170 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	NV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.257 in	15-6170 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	NV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.328 in	15-6170 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	NV
1.5-2 NPS	3 NPS	0.6249 in <sup>2</sup>	0.892 in	0.342 in	15-2500 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	NV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.41 in	15-3705 psi	Water	UV, V
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	NV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.525 in	15-3705 psi	Water	UV, V
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	NV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.628 in	15-3705 psi	Water	UV, V
3 NPS	4-6 NPS	2.109 in <sup>2</sup>	1.639 in	0.632 in	15-3705 psi	Water	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	NV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.782 in	15-3705 psi	Water	UV, V
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	NV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.878 in	15-2220 psi	Water	UV, V
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	NV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.964 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	NV
4 NPS	6 NPS	7.205 in <sup>2</sup>	[P] 3.029 in	1.169 in	15-1480 psi	Water	UV, V
4 NPS	6 NPS	7.997 in <sup>2</sup>	[P2] 3.191 in	1.232 in	15-1500 psi	Water	UV, V
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.539 in	15-1480 psi	Water	UV, V
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	NV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.852 in	15-1480 psi	Water	UV, V
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	NV
8 NPS	10, 12 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	2.361 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	UV, V
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	2.444 in	15-740 psi	Water	NV

Design Name: JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB NBCert # 15208

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/07/2026

#### Design Type

[Safety Relief Valve] JOS-E/JBS-E/JOS-H-E/JBS-H-E/JOS-JDS-E, 8400, AC/AB  
 Capacity Tests: Sec. NV, UV at Crosby Valve, LLC on April 1, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.865 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-15000 psi	Air	NV, UV
0.75-1.5 NPS	2 - 3 NPS	0.1244 in <sup>2</sup>	[D] 0.398 in	0.121 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-2000 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.187 in <sup>2</sup>	0.488 in	0.151 in	15-8490 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.2214 in <sup>2</sup>	[E] 0.531 in	0.165 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-15000 psi	Air	NV, UV
1-1.5 NPS	2 - 3 NPS	0.3473 in <sup>2</sup>	[F] 0.665 in	0.207 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5674 in <sup>2</sup>	[G] 0.85 in	0.265 in	15-2000 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-15000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.8874 in <sup>2</sup>	[H] 1.063 in	0.331 in	15-2000 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-10000 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.453 in <sup>2</sup>	[J] 1.36 in	0.424 in	15-2000 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-10000 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.076 in <sup>2</sup>	[K] 1.626 in	0.507 in	15-2000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-1000 psi	Steam	NV, UV
4 NPS	6 NPS	2.714 in <sup>2</sup>	1.859 in	0.601 in	15-3000 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-2000 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.221 in <sup>2</sup>	[L] 2.025 in	0.631 in	15-5000 psi	Air	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-2000 psi	Steam	NV, UV
3-4 NPS	6 NPS	4.065 in <sup>2</sup>	[M] 2.275 in	0.709 in	15-5000 psi	Air	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	4.9 in <sup>2</sup>	[N] 2.498 in	0.779 in	15-3000 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Air	NV, UV
4 NPS	6 NPS	5.444 in <sup>2</sup>	2.633 in	0.85 in	15-2250 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-1480 psi	Steam	NV, UV
4 NPS	6 NPS	7.206 in <sup>2</sup>	[P] 3.029 in	0.945 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-1000 psi	Steam	NV, UV

6 NPS	8 NPS	11.045 in <sup>2</sup>	3.75 in	1.243 in	15-3750 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	12.174 in <sup>2</sup>	3.937 in	1.243 in	15-2250 psi	Steam	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Air	NV, UV
6 NPS	10 NPS	12.236 in <sup>2</sup>	3.947 in	1.496 in	15-2250 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-1480 psi	Steam	NV, UV
6 NPS	8 NPS	12.472 in <sup>2</sup>	[Q] 3.985 in	1.243 in	15-3000 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Air	NV, UV
6 NPS	8 NPS	15.288 in <sup>2</sup>	4.412 in	1.414 in	15-2250 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.065 in <sup>2</sup>	[R] 4.796 in	1.496 in	15-1480 psi	Steam	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Air	NV, UV
8 NPS	10 NPS	18.254 in <sup>2</sup>	4.821 in	1.907 in	15-2250 psi	Steam	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	29.359 in <sup>2</sup>	[T] 6.114 in	1.907 in	15-740 psi	Steam	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Air	NV, UV
8 NPS	10 NPS	31.47 in <sup>2</sup>	[T2] 6.33 in	1.974 in	15-740 psi	Steam	NV, UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Air	UV
10-12 NPS	14, 16 NPS	47.84 in <sup>2</sup>	[V] 7.805 in	2.435 in	15-325 psi	Steam	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Air	UV
12-14 NPS	16, 20 NPS	78.08 in <sup>2</sup>	[W] 9.971 in	3.111 in	15-325 psi	Steam	UV

## Team Industrial Services, Inc. (PSL)

Nameplate Abbreviation: TEAM

Sulphur, LA 70663United States

### This Company Manufactures or Assembles:

Design Name: 2600 & 2600S			NBCert # 57057				
Manufacturer/Assembler		Designators		Expiration Date			
Assembler		UV		02/05/2030			
Design Type							
[Safety Relief Valve] 2600 & 2600S Capacity Tests: Sec. UV at unknown lab on June 11, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV



1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Liquids)				NBCert # 57068			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		02/05/2030		
Design Type							
[Relief Valve] 2600L (Liquids) Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.652 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in²	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in²	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in²	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in²	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in²	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in²	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in²	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in²	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in²	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in²	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S		NBCert # 57237
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/05/2030
Design Type		
<p>[Safety Relief Valve] 2700, 2700S, 3700, 3700S Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</p>		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	02/05/2030
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#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800	NBCert # 57024
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	02/05/2030
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV

8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/05/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

## Team Industrial Services, Inc. (TME)

Nameplate Abbreviation: TEAM

Geismar, LA 70734 United States

### This Company Manufactures or Assembles:

Design Name: 9 Series NBCert # 44019

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/08/2027

## Design Type

[Safety Relief Valve] 9 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on July 24, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.823 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-4700 psi	Air	UV
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-4700 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Steam	UV

Design Name: 9 Series (Liquids) NBCert # 44020

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/08/2027

## Design Type

[Relief Valve] 9 Series (Liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on July 24, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.632 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	[B] 0.236 in	0.07 in	15-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	14.5-6250 psi	Water	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.13 in	14.5-2220 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.17 in	14.5-740 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.21 in	14.5-285 psi	Water	UV

Design Name: P3, P4 (liquids) NBCert # 92012

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/18/2027

## Design Type

[Relief Valve] P3, P4 (liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in <sup>2</sup>	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in <sup>2</sup>	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V

Design Name: P3, P4, P5

NBCert # 92001

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/18/2027

## Design Type

[Safety Relief Valve] P3, P4, P5  
Capacity Tests: Sec. UV at unknown lab on June 5, 1986  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Air	UV
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Air	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-2900 psi	Steam	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-2900 psi	Steam	UV

1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Air	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-2900 psi	Steam	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Air	UV
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-2900 psi	Steam	UV
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Air	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Steam	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Air	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Steam	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Air	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Steam	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Air	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Steam	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Air	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Steam	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Air	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Steam	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Air	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Steam	UV

Design Name: STARFLOW-V NBCert # 44110

Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 07/08/2027

#### Design Type

[Safety Valve] STARFLOW-V  
Capacity Tests: Sec. UV, V at National Board Testing Lab on April 26, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}  
Comments: org. date added and V orif. area corrected from 38.548 to 38.485 JB 8-10-20  
corrected H inlet to add 1.5" JB -8-2-21

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.172 in	30-2250 psi	Steam	UV, V
1.25-2 NPS	1.5-3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.217 in	30-2250 psi	Steam	UV, V
1.5-2 NPS	2.5, 3 NPS	0.996 in <sup>2</sup>	[H] 1.126 in	0.281 in	30-2250 psi	Steam	UV, V



1.5-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.3622 in	0.341 in	30-2250 psi	Steam	UV, V
2-3 NPS	3-6 NPS	1.667 in <sup>2</sup>	[K] 1.457 in	0.364 in	30-2250 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.758 in <sup>2</sup>	[L] 1.874 in	0.469 in	30-2250 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.983 in <sup>2</sup>	[M] 2.252 in	0.563 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[N] 2.5984 in	0.65 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.75 in	30-2250 psi	Steam	UV, V
6 NPS	8 NPS	10.148 in <sup>2</sup>	[Q] 3.594 in	0.902 in	30-1494 psi	Steam	UV, V
6 NPS	8, 10 NPS	14.173 in <sup>2</sup>	[R] 4.248 in	1.062 in	30-1494 psi	Steam	UV, V
8 NPS	10 NPS	23.997 in <sup>2</sup>	[T] 5.528 in	1.382 in	30-740 psi	Steam	UV, V
10 NPS	14 NPS	38.485 in <sup>2</sup>	[V] 7 in	1.75 in	30-740 psi	Steam	UV, V
12 NPS	2x12 NPS	55.438 in <sup>2</sup>	[W] 8.402 in	2.1 in	30-740 psi	Steam	UV, V

Design Name: STARFLOW-V (Restricted Lift) NBCert # 44121

Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 07/08/2027

#### Design Type

[Safety Valve] STARFLOW-V (Restricted Lift)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on April 27, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}  
Comments: Org. date added and "V" orif. area corrected from 34.485 to 38.485 JB 8-10-20  
corrected H by adding 1.5" inlet JB 8-2-21

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.095 in	30-2250 psi	Steam	UV, V
1.25-2 NPS	1.5-3 NPS	0.589 in <sup>2</sup>	[G] 0.8661 in	0.119 in	30-2250 psi	Steam	UV, V
1.5-2 NPS	2.5, 3 NPS	0.996 in <sup>2</sup>	[H] 1.126 in	0.156 in	30-2250 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.3622 in	0.188 in	30-2250 psi	Steam	UV, V
2-3 NPS	3-6 NPS	1.667 in <sup>2</sup>	[K] 1.457 in	0.201 in	30-2250 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.758 in <sup>2</sup>	[L] 1.874 in	0.258 in	30-2250 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.983 in <sup>2</sup>	[M] 2.252 in	0.31 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[N] 2.5984 in	0.357 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.414 in	30-2250 psi	Steam	UV, V
6 NPS	8 NPS	10.148 in <sup>2</sup>	[Q] 3.594 in	0.496 in	30-1494 psi	Steam	UV, V
6 NPS	8, 10 NPS	14.173 in <sup>2</sup>	[R] 4.248 in	0.584 in	30-1494 psi	Steam	UV, V
8 NPS	10 NPS	23.997 in <sup>2</sup>	[T] 5.528 in	0.76 in	30-740 psi	Steam	UV, V
10 NPS	14 NPS	38.485 in <sup>2</sup>	[V] 7 in	0.963 in	30-740 psi	Steam	UV, V
12 NPS	2x12 NPS	55.438 in <sup>2</sup>	[W] 8.402 in	1.155 in	30-740 psi	Steam	UV, V

Mobile, AL 36618United States

This Company Manufactures or Assembles:

Design Name: 78 (Pilot Operated)		NBCert # 44053
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/24/2027

Design Type
[Pilot Operated Pressure Relief Valve] 78 (Pilot Operated) Capacity Tests: Sec. UV at National Board Testing Lab on August 5, 1999 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.124 in²	[D] 0.398 in	0.53 in	26.1-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.124 in²	[D] 0.398 in	0.53 in	29-740 psi	Steam	UV
1-1.5 NPS	2 NPS	0.222 in²	[E] 0.531 in	0.53 in	26.1-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.222 in²	[E] 0.531 in	0.53 in	29-740 psi	Steam	UV
1-1.5 NPS	2 NPS	0.352 in²	[F] 0.669 in	0.53 in	26.1-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.352 in²	[F] 0.669 in	0.53 in	29-740 psi	Steam	UV
1.5-2 NPS	3 NPS	0.568 in²	[G] 0.85 in	0.7 in	26.1-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.568 in²	[G] 0.85 in	0.7 in	29-740 psi	Steam	UV
1.5-2 NPS	3 NPS	0.887 in²	[H] 1.063 in	0.7 in	26.1-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.887 in²	[H] 1.063 in	0.7 in	29-740 psi	Steam	UV
2-3 NPS	3,4 NPS	1.457 in²	[J] 1.362 in	0.8 in	26.1-6250 psi	Air	UV
2-3 NPS	3,4 NPS	1.457 in²	[J] 1.362 in	0.8 in	29-740 psi	Steam	UV
3 NPS	4 NPS	2.097 in²	[K] 1.634 in	1.18 in	26.1-3750 psi	Air	UV
3 NPS	4 NPS	2.097 in²	[K] 1.634 in	1.18 in	29-740 psi	Steam	UV
3-4 NPS	4,6 NPS	3.229 in²	[L] 2.028 in	1.18 in	26.1-3750 psi	Air	UV
3-4 NPS	4,6 NPS	3.229 in²	[L] 2.028 in	1.18 in	29-740 psi	Steam	UV
4 NPS	6 NPS	4.095 in²	[M] 2.284 in	1.57 in	26.1-3750 psi	Air	UV
4 NPS	6 NPS	4.095 in²	[M] 2.284 in	1.57 in	29-740 psi	Steam	UV
4 NPS	6 NPS	5.143 in²	[N] 2.559 in	1.57 in	26.1-3750 psi	Air	UV
4 NPS	6 NPS	5.143 in²	[N] 2.559 in	1.57 in	29-740 psi	Steam	UV
4 NPS	6 NPS	7.069 in²	[P] 3 in	1.57 in	26.1-3750 psi	Air	UV
4 NPS	6 NPS	7.069 in²	[P] 3 in	1.57 in	29-740 psi	Steam	UV
6 NPS	8 NPS	12.915 in²	[Q] 4.055 in	2.16 in	26.1-3750 psi	Air	UV

6 NPS	8 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	2.16 in	29-740 psi	Steam	UV
6 NPS	8 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.16 in	26.1-1500 psi	Air	UV
6 NPS	8 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.16 in	29-740 psi	Steam	UV
8-8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	2.99 in	26.1-1500 psi	Air	UV
8-8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	2.99 in	29-740 psi	Steam	UV

Design Name: 78 (Pilot Operated, Liquid) NBCert # 44064

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/07/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 78 (Pilot Operated, Liquid)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on August 6, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.857 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.53 in	26.1-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.53 in	26.1-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.53 in	26.1-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.7 in	26.1-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.7 in	26.1-6250 psi	Water	UV
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.8 in	26.1-6250 psi	Water	UV
3 NPS	4 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	1.18 in	26.1-3750 psi	Water	UV
3-4 NPS	4, 6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	1.18 in	26.1-3750 psi	Water	UV
4 NPS	6 NPS	4.095 in <sup>2</sup>	[M] 2.283 in	1.57 in	26.1-3750 psi	Water	UV
4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	1.57 in	26.1-3750 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.57 in	26.1-3750 psi	Water	UV
6 NPS	8 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	2.16 in	26.1-3750 psi	Water	UV
6 NPS	8 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.16 in	26.1-1500 psi	Water	UV
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	2.99 in	26.1-1500 psi	Water	UV

Design Name: 9 Series NBCert # 44019

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/24/2027

#### Design Type

[Safety Relief Valve] 9 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on July 24, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.823 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-4700 psi	Air	UV
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-4700 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Steam	UV

Design Name:	9 Series (Liquids)	NBCert #	44020
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/07/2027

Design Type
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[Relief Valve] 9 Series (Liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on July 24, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.632 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	[B] 0.236 in	0.07 in	15-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	14.5-6250 psi	Water	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.13 in	14.5-2220 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.17 in	14.5-740 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.21 in	14.5-285 psi	Water	UV

Design Name:	P3, P4 (liquids)	NBCert #	92012
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	02/24/2027

Design Type
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[Relief Valve] P3, P4 (liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in <sup>2</sup>	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in <sup>2</sup>	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V

Design Name: P3, P4, P5	NBCert # 92001
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/24/2027

#### Design Type

[Safety Relief Valve] P3, P4, P5  
Capacity Tests: Sec. UV at unknown lab on June 5, 1986  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Air	UV
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Air	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-2900 psi	Steam	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Air	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-2900 psi	Steam	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Air	UV
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-2900 psi	Steam	UV

3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Air	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Steam	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Air	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Steam	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Air	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Steam	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Air	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Steam	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Air	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Steam	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Air	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Steam	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Air	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Steam	UV

Design Name:	STARFLOW-V	NBCert #	44110
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	V	07/08/2027
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#### Design Type

[Safety Valve] STARFLOW-V  
Capacity Tests: Sec. UV, V at National Board Testing Lab on April 26, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}  
Comments: org. date added and V orif. area corrected from 38.548 to 38.485 JB 8-10-20  
corrected H inlet to add 1.5" JB -8-2-21

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.172 in	30-2250 psi	Steam	UV, V
1.25-2 NPS	1.5-3 NPS	0.589 in <sup>2</sup>	[G] 0.8661 in	0.217 in	30-2250 psi	Steam	UV, V
1.5-2 NPS	2.5, 3 NPS	0.996 in <sup>2</sup>	[H] 1.126 in	0.281 in	30-2250 psi	Steam	UV, V
1.5-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.3622 in	0.341 in	30-2250 psi	Steam	UV, V
2-3 NPS	3-6 NPS	1.667 in <sup>2</sup>	[K] 1.457 in	0.364 in	30-2250 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.758 in <sup>2</sup>	[L] 1.874 in	0.469 in	30-2250 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.983 in <sup>2</sup>	[M] 2.252 in	0.563 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[N] 2.5984 in	0.65 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.75 in	30-2250 psi	Steam	UV, V

6 NPS	8 NPS	10.148 in <sup>2</sup>	[Q] 3.594 in	0.902 in	30-1494 psi	Steam	UV, V
6 NPS	8, 10 NPS	14.173 in <sup>2</sup>	[R] 4.248 in	1.062 in	30-1494 psi	Steam	UV, V
8 NPS	10 NPS	23.997 in <sup>2</sup>	[T] 5.528 in	1.382 in	30-740 psi	Steam	UV, V
10 NPS	14 NPS	38.485 in <sup>2</sup>	[V] 7 in	1.75 in	30-740 psi	Steam	UV, V
12 NPS	2x12 NPS	55.438 in <sup>2</sup>	[W] 8.402 in	2.1 in	30-740 psi	Steam	UV, V

Design Name:	STARFLOW-V (Restricted Lift)	NBCert #	44121
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 07/07/2027

#### Design Type

[Safety Valve] STARFLOW-V (Restricted Lift)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on April 27, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}  
Comments: Org. date added and "V" orif. area corrected from 34.485 to 38.485 JB 8-10-20  
corrected H by adding 1.5" inlet JB 8-2-21

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.095 in	30-2250 psi	Steam	UV, V
1.25-2 NPS	1.5-3 NPS	0.589 in <sup>2</sup>	[G] 0.8661 in	0.119 in	30-2250 psi	Steam	UV, V
1.5-2 NPS	2.5, 3 NPS	0.996 in <sup>2</sup>	[H] 1.126 in	0.156 in	30-2250 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.3622 in	0.188 in	30-2250 psi	Steam	UV, V
2-3 NPS	3-6 NPS	1.667 in <sup>2</sup>	[K] 1.457 in	0.201 in	30-2250 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.758 in <sup>2</sup>	[L] 1.874 in	0.258 in	30-2250 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.983 in <sup>2</sup>	[M] 2.252 in	0.31 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[N] 2.5984 in	0.357 in	30-2250 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.414 in	30-2250 psi	Steam	UV, V
6 NPS	8 NPS	10.148 in <sup>2</sup>	[Q] 3.594 in	0.496 in	30-1494 psi	Steam	UV, V
6 NPS	8, 10 NPS	14.173 in <sup>2</sup>	[R] 4.248 in	0.584 in	30-1494 psi	Steam	UV, V
8 NPS	10 NPS	23.997 in <sup>2</sup>	[T] 5.528 in	0.76 in	30-740 psi	Steam	UV, V
10 NPS	14 NPS	38.485 in <sup>2</sup>	[V] 7 in	0.963 in	30-740 psi	Steam	UV, V
12 NPS	2x12 NPS	55.438 in <sup>2</sup>	[W] 8.402 in	1.155 in	30-740 psi	Steam	UV, V

Design Name:	Starsteam V Series	NBCert #	92034
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler V 07/07/2027

## Design Type

[Safety Valve] Starsteam V Series  
Capacity Tests: Sec. UV, V at National Board Testing Lab on August 3, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	3 NPS	0.996 in <sup>2</sup>	[1] 1.125 in	0.2835 in	15-6525 psi	Steam	UV, V
2 NPS	3 NPS	1.667 in <sup>2</sup>	[2] 1.456 in	0.3661 in	15-6525 psi	Steam	UV, V
2.5-6 NPS	6 NPS	2.758 in <sup>2</sup>	[3] 1.874 in	0.4685 in	15-6525 psi	Steam	UV, V
3 NPS	6 NPS	3.983 in <sup>2</sup>	[4] 2.251 in	0.562 in	15-6525 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[5] 2.598 in	0.6496 in	15-6525 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[6] 3 in	0.752 in	15-3280 psi	Steam	UV, V
6 NPS	8 NPS	11.056 in <sup>2</sup>	[Q] 3.751 in	0.9409 in	15-2798.5 psi	Steam	UV, V
6 NPS	10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	1.126 in	15-1580 psi	Steam	UV, V
6 NPS	10 NPS	19.299 in <sup>2</sup>	[RR] 4.957 in	1.239 in	15-1580 psi	Steam	UV, V
8 NPS	10 NPS	27.391 in <sup>2</sup>	[T] 5.905 in	1.4764 in	15-1190 psi	Steam	UV, V

Design Name: Starsteam V Series (Res. Lift) NBCert # 92045

Manufacturer/Assembler	Designators	Expiration Date
Assembler	V	07/07/2027

## Design Type

[Safety Valve] Starsteam V Series (Res. Lift)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on August 6, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	3 NPS	0.996 in <sup>2</sup>	[1] 1.125 in	0.156 in	15-6525 psi	Steam	UV, V
2 NPS	3 NPS	1.667 in <sup>2</sup>	[2] 1.456 in	0.201 in	15-6525 psi	Steam	UV, V
2.5 NPS	6 NPS	2.758 in <sup>2</sup>	[3] 1.874 in	0.258 in	15-6525 psi	Steam	UV, V
3 NPS	6 NPS	3.983 in <sup>2</sup>	[4] 2.251 in	0.309 in	15-6525 psi	Steam	UV, V
4 NPS	6 NPS	5.303 in <sup>2</sup>	[5] 2.598 in	0.357 in	15-6525 psi	Steam	UV, V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[6] 3 in	0.414 in	15-3280 psi	Steam	UV, V
6 NPS	8 NPS	11.056 in <sup>2</sup>	[Q] 3.571 in	0.517 in	15-2798 psi	Steam	UV, V
6 NPS	10 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	0.619 in	15-1580 psi	Steam	UV, V
6 NPS	10 NPS	19.299 in <sup>2</sup>	[RR] 4.957 in	0.681 in	15-1580 psi	Steam	UV, V
8 NPS	10 NPS	27.391 in <sup>2</sup>	[T] 5.905 in	0.812 in	15-1190 psi	Steam	UV, V



Vignate, Milano, 20060Italy

This Company Manufactures or Assembles:

Design Name: Series 10000		NBCert #	74135
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	06/14/2029
Design Type			
[Safety Relief Valve] Series 10000 Capacity Tests: Sec. UV at National Board Testing Lab on December 13, 2010 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.875 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Technical S.r.l. {TCI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-1 NPS	1 - 2 NPS	0.121 in <sup>2</sup>	[D] 10 mm	2.1 mm	1-413 bar	Air	UV
0.75-2 NPS	1.5, 2 NPS	0.221 in <sup>2</sup>	[E] 13.5 mm	3.2 mm	1-413 bar	Air	UV
1-2 NPS	1.5, 2 NPS	0.372 in <sup>2</sup>	[F] 17.5 mm	4.2 mm	1-350 bar	Air	UV
1.5-2 NPS	2 NPS	0.562 in <sup>2</sup>	[G] 21.5 mm	5.5 mm	1-330 bar	Air	UV
1.5-2 NPS	2 NPS	0.887 in <sup>2</sup>	[H] 27 mm	7 mm	1-40 bar	Air	UV

Design Name: Series 20000		NBCert #	74146
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/26/2026
Design Type			
[Safety Relief Valve] Series 20000 Capacity Tests: Sec. UV at National Board Testing Lab on December 13, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.703 SCFM/PSIA; (alternate medium): 4.784 PPH/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Technical S.r.l. {TCI}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	2.1 mm	1-700 bar	Air	UV

Design Name: Series 30000		NBCert #	74157
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UV	11/26/2026

## Design Type

[Safety Relief Valve] Series 30000  
 Capacity Tests: Sec. UV at National Board Testing Lab on May 4, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.856 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Technical S.r.l. {TCI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.121 in <sup>2</sup>	[D] 10 mm	2.5 mm	1-413 bar	Air	UV
1-1.5 NPS	2, 3 NPS	0.147 in <sup>2</sup>	[Do] 11 mm	2.8 mm	1-413 bar	Air	UV
1-1.5 NPS	2, 3 NPS	0.215 in <sup>2</sup>	[E] 13.3 mm	3.1 mm	1-413 bar	Air	UV
1-1.5 NPS	2, 3 NPS	0.239 in <sup>2</sup>	[Eo] 14 mm	3.4 mm	1-413 bar	Air	UV
1.5 NPS	2, 3 NPS	0.335 in <sup>2</sup>	[F] 16.6 mm	4 mm	1-344 bar	Air	UV
1.5 NPS	2, 3 NPS	0.394 in <sup>2</sup>	[Fo] 18 mm	4.9 mm	1-344 bar	Air	UV
1.5-2 NPS	3 NPS	0.547 in <sup>2</sup>	[G] 21.2 mm	6.2 mm	1-255 bar	Air	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[Go] 22 mm	6.7 mm	1-255 bar	Air	UV
1.5-2 NPS	3 NPS	0.854 in <sup>2</sup>	[H] 26.5 mm	9.8 mm	1-189 bar	Air	UV
1.5-2 NPS	3 NPS	0.914 in <sup>2</sup>	[Ho] 27.4 mm	9.9 mm	1-189 bar	Air	UV
1.5-2 NPS	3 NPS	1.095 in <sup>2</sup>	[H1] 30 mm	10 mm	1-189 bar	Air	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[J] 34 mm	11 mm	1-186 bar	Air	UV
2-3 NPS	3, 4 NPS	1.578 in <sup>2</sup>	[Jo] 36 mm	12.2 mm	1-186 bar	Air	UV
3 NPS	4, 6 NPS	2.006 in <sup>2</sup>	[K] 40.6 mm	13 mm	1-153 bar	Air	UV
3 NPS	4, 6 NPS	2.251 in <sup>2</sup>	[Ko] 43 mm	13.6 mm	1-153 bar	Air	UV
3-4 NPS	4, 6 NPS	3.116 in <sup>2</sup>	[L] 50.6 mm	16 mm	1-103 bar	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[Lo] 53 mm	17.4 mm	1-103 bar	Air	UV
4 NPS	6 NPS	3.116 in <sup>2</sup>	[M] 56.8 mm	19 mm	1-75 bar	Air	UV
4 NPS	6 NPS	4.383 in <sup>2</sup>	[Mo] 60 mm	19.6 mm	1-75 bar	Air	UV
4 NPS	6 NPS	4.74 in <sup>2</sup>	[N] 62.4 mm	20 mm	1-68 bar	Air	UV
4 NPS	6 NPS	5.303 in <sup>2</sup>	[No] 66 mm	21 mm	1-68 bar	Air	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[P] 75.7 mm	24 mm	1-68 bar	Air	UV
4 NPS	6 NPS	7.791 in <sup>2</sup>	[Po] 80 mm	24.5 mm	1-68 bar	Air	UV
6 NPS	8 NPS	12.07 in <sup>2</sup>	[Q] 99.6 mm	33 mm	1-41 bar	Air	UV
6 NPS	8 NPS	13.421 in <sup>2</sup>	[Qo] 105 mm	37 mm	1-41 bar	Air	UV
6 NPS	8, 10 NPS	17.47 in <sup>2</sup>	[R] 119.8 mm	40 mm	1-20 bar	Air	UV
8 NPS	10 NPS	28.42 in <sup>2</sup>	[T] 152.8 mm	50 mm	1-20 bar	Air	UV
8 NPS	10 NPS	30.39 in <sup>2</sup>	[To] 158 mm	51 mm	1-20 bar	Air	UV
10 NPS	12 NPS	39.43 in <sup>2</sup>	[U] 180 mm	57 mm	1-12 bar	Air	UV

Design Name: Series 30000 (Liquid)

NBCert # 74179

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/18/2029

## Design Type

[Safety Relief Valve] Series 30000 (Liquid)  
 Capacity Tests: Sec. UV at National Board Testing Lab on September 24, 2010  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.720 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: Start-to-Leak  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Technical S.r.l. {TCI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.121 in <sup>2</sup>	[D] 10 mm	2.5 mm	1-413 bar	Water	UV
1-1.5 NPS	2, 3 NPS	0.147 in <sup>2</sup>	[Do] 11 mm	2.8 mm	1-413 bar	Water	UV
1-1.5 NPS	2, 3 NPS	0.215 in <sup>2</sup>	[E] 13.3 mm	3.1 mm	1-413 bar	Water	UV
1-1.5 NPS	2, 3 NPS	0.239 in <sup>2</sup>	[Eo] 14 mm	3.4 mm	1-413 bar	Water	UV
1.5 NPS	2, 3 NPS	0.335 in <sup>2</sup>	[F] 16.6 mm	4 mm	1-344 bar	Water	UV
1.5 NPS	2, 3 NPS	0.394 in <sup>2</sup>	[Fo] 18 mm	4.9 mm	1-344 bar	Water	UV
1.5-2 NPS	3 NPS	0.547 in <sup>2</sup>	[G] 21.2 mm	6.2 mm	1-255 bar	Water	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[Go] 22 mm	6.7 mm	1-255 bar	Water	UV
1.5-2 NPS	3 NPS	0.854 in <sup>2</sup>	[H] 26.5 mm	9.8 mm	1-189 bar	Water	UV
1.5-2 NPS	3 NPS	5.896 in <sup>2</sup>	[Ho] 27.4 mm	9.9 mm	1-189 bar	Water	UV
1.5-2 NPS	3 NPS	1.095 in <sup>2</sup>	[H1] 30 mm	10 mm	1-189 bar	Water	UV
2-3 NPS	3, 4 NPS	1.407 in <sup>2</sup>	[J] 34 mm	11 mm	1-186 bar	Water	UV
2-3 NPS	3, 4 NPS	1.578 in <sup>2</sup>	[Jo] 36 mm	12.2 mm	1-186 bar	Water	UV
3 NPS	4, 6 NPS	2.006 in <sup>2</sup>	[K] 40.6 mm	13 mm	1-153 bar	Water	UV
3 NPS	4, 6 NPS	2.251 in <sup>2</sup>	[Ko] 43 mm	13.6 mm	1-153 bar	Water	UV
3-4 NPS	4, 6 NPS	3.116 in <sup>2</sup>	[L] 50.6 mm	16 mm	1-103 bar	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[Lo] 53 mm	17.4 mm	1-103 bar	Water	UV
4 NPS	6 NPS	3.927 in <sup>2</sup>	[M] 56.8 mm	19 mm	1-75 bar	Water	UV
4 NPS	6 NPS	4.383 in <sup>2</sup>	[Mo] 60 mm	19.6 mm	1-75 bar	Water	UV
4 NPS	6 NPS	4.74 in <sup>2</sup>	[N] 62.4 mm	20 mm	1-68 bar	Water	UV
4 NPS	6 NPS	5.303 in <sup>2</sup>	[No] 66 mm	21 mm	1-68 bar	Water	UV
4 NPS	6 NPS	6.976 in <sup>2</sup>	[P] 75.7 mm	24 mm	1-68 bar	Water	UV
4 NPS	6 NPS	7.791 in <sup>2</sup>	[Po] 80 mm	24.5 mm	1-68 bar	Water	UV
6 NPS	8 NPS	12.07 in <sup>2</sup>	[Q] 99.6 mm	33 mm	1-41 bar	Water	UV
6 NPS	8 NPS	13.421 in <sup>2</sup>	[Qo] 105 mm	37 mm	1-41 bar	Water	UV
6 NPS	8, 10 NPS	17.47 in <sup>2</sup>	[R] 119.8 mm	40 mm	1-20 bar	Water	UV
8 NPS	10 NPS	28.42 in <sup>2</sup>	[T] 152.8 mm	50 mm	1-20 bar	Water	UV
8 NPS	10 NPS	30.39 in <sup>2</sup>	[To] 158 mm	51 mm	1-20 bar	Water	UV
10 NPS	12 NPS	39.43 in <sup>2</sup>	[U] 180 mm	57 mm	1-12 bar	Water	UV

# The Blythe Company, LLC (BLY)

Nameplate Abbreviation: TBC

Indian Land, SC 29707United States

## This Company Manufactures or Assembles:

Design Name:	81, 81P, 83, 84	NBCert #	01089
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/03/2025

### Design Type

[Safety Relief Valve] 81, 81P, 83, 84  
 Capacity Tests: Sec. UV at unknown lab on July 8, 1965  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.816 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}  
 Comments: Type 81P and 84 have fixed blowdown.

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25-2 NPS	.75 - 2 NPS	0.012 in <sup>2</sup>	[-2] 0.125 in	0.05 in	20-22000 psi	Air	UV
0.5-2 NPS	.75 - 2 NPS	0.028 in <sup>2</sup>	[-3] 0.188 in	0.06 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-12500 psi	Air	UV
0.5-2 NPS	.75 - 2.5 NPS	0.049 in <sup>2</sup>	[-4] 0.25 in	0.09 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-5000 psi	Air	NV
0.5-2 NPS	1 - 2.5 NPS	0.11 in <sup>2</sup>	[-6] 0.375 in	0.12 in	20-9600 psi	Air	UV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-5000 psi	Air	NV
0.75-2 NPS	1 - 2.5 NPS	0.196 in <sup>2</sup>	[-8] 0.5 in	0.16 in	20-6000 psi	Air	UV
1.5 NPS	2 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.28 in	20-4040 psi	Air	UV
1.5-2 NPS	2-3 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.34 in	20-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.41 in	20-2580 psi	Air	UV
2 NPS	3 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.46 in	20-1620 psi	Air	UV

Design Name:	9100	NBCert #	38056
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/03/2025

### Design Type

[Safety Relief Valve] 9100  
 Capacity Tests: Sec. UV at National Board Testing Lab on July 19, 1991  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.818 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	[C] 0.281 in	0.11 in	15-10000 psi	Air	UV
0.5-1.5 NPS	1 - 2 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.17 in	15-7500 psi	Air	UV
0.75-2 NPS	1 - 3 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.19 in	15-6000 psi	Air	UV
1-2 NPS	1-1/2 - 3 NPS	0.337 in <sup>2</sup>	[F] 0.655 in	0.27 in	15-5000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.3 in	15-4000 psi	Air	UV
1.5-3 NPS	2 - 3 NPS	0.865 in <sup>2</sup>	[H] 1.05 in	0.41 in	15-2750 psi	Air	UV
2-3 NPS	2-1/2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.58 in	15-2700 psi	Air	UV
2-3 NPS	3-4 NPS	1.622 in <sup>2</sup>	[JO] 1.437 in	0.6 in	15-1800 psi	Air	UV
3-4 NPS	3,4,6 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.65 in	15-2200 psi	Air	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.8 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.08 in <sup>2</sup>	[M] 2.28 in	0.9 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	0.985 in	15-740 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.2 in	15-525 psi	Air	UV

Design Name: 9100L (Liquids)	NBCert # 38067
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	07/30/2025
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#### Design Type

[Relief Valve] 9100L (Liquids)  
 Capacity Tests: Sec. UV at National Board Testing Lab on June 9, 1995  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.707 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.062 in <sup>2</sup>	[C] 0.281 in	0.11 in	15-10000 psi	Water	UV
0.5-1 NPS	1 - 2 NPS	0.122 in <sup>2</sup>	[D] 0.394 in	0.17 in	15-6500 psi	Water	UV
0.75-2 NPS	1 - 2 NPS	0.212 in <sup>2</sup>	[E] 0.52 in	0.25 in	15-3500 psi	Water	UV
1-2 NPS	1.5 - 2.5 NPS	0.337 in <sup>2</sup>	[F] 0.655 in	0.32 in	15-5000 psi	Water	UV
1.5-3 NPS	2 - 3 NPS	0.472 in <sup>2</sup>	[G] 0.775 in	0.35 in	15-4000 psi	Water	UV
1.5-3 NPS	2 - 3 NPS	0.865 in <sup>2</sup>	[H] 1.05 in	0.52 in	15-2750 psi	Water	UV
2-4 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.62 in	15-2700 psi	Water	UV
2-3 NPS	3-4 NPS	1.622 in <sup>2</sup>	[JO] 1.437 in	0.64 in	15-1800 psi	Water	UV
3-4 NPS	3, 4 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.76 in	15-2220 psi	Water	UV
3-4 NPS	4, 6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.82 in	15-2000 psi	Water	UV
4-4 NPS	6 NPS	4.08 in <sup>2</sup>	[M] 2.28 in	0.95 in	15-2000 psi	Water	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	0.985 in	15-740 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.2 in	15-525 psi	Water	UV

Design Name:	9500 (Full Port), S, M, E Pilots	NBCert #	38089
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/03/2025

Design Type
[Pilot Operated Pressure Relief Valve] 9500 (Full Port), S, M, E Pilots Capacity Tests: Sec. UV at National Board Testing Lab on July 18, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.820 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2,3 NPS	1.767 in <sup>2</sup>	1.5 in	0.65 in	15-6170 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	1.939 in	0.85 in	15-3705 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	2.9 in	1.25 in	15-3700 psi	Air	UV
4 NPS	6 NPS	11.491 in <sup>2</sup>	3.825 in	1.675 in	15-1530 psi	Air	UV
6 NPS	8 NPS	26.067 in <sup>2</sup>	5.761 in	2.531 in	15-1480 psi	Air	UV
8 NPS	10 NPS	45.664 in <sup>2</sup>	7.625 in	3.35 in	15-1480 psi	Air	UV

Design Name:	9500, S, M, E Pilots	NBCert #	38078
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	11/03/2025

Design Type
[Pilot Operated Pressure Relief Valve] 9500, S, M, E Pilots Capacity Tests: Sec. UV at National Board Testing Lab on July 9, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.870 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition(1): Pop; (2): Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: Mercer Valve Co., Inc. {MVC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.151 in <sup>2</sup>	[D] 0.439 in	0.2 in	15-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.25 in	15-6170 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.325 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.39 in	15-6170 psi	Air	UV
1.5-2 NPS	3 NPS	0.866 in <sup>2</sup>	[H] 1.05 in	0.485 in	15-6170 psi	Air	UV
2-3 NPS	3,4 NPS	1.431 in <sup>2</sup>	[J] 1.35 in	0.625 in	15-6170 psi	Air	UV
3 NPS	4 NPS	2.074 in <sup>2</sup>	[K] 1.625 in	0.75 in	15-3705 psi	Air	UV
3-4 NPS	4,6 NPS	3.205 in <sup>2</sup>	[L] 2.02 in	0.92 in	15-3705 psi	Air	UV
4 NPS	6 NPS	4.083 in <sup>2</sup>	[M] 2.28 in	1.05 in	15-3705 psi	Air	UV
4 NPS	6 NPS	4.909 in <sup>2</sup>	[N] 2.5 in	1.15 in	15-3705 psi	Air	UV

4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.38 in	15-3705 psi	Air	UV
6 NPS	8 NPS	12.566 in <sup>2</sup>	[Q] 4 in	1.84 in	15-1480 psi	Air	UV
6 NPS	8 NPS	17.721 in <sup>2</sup>	[R] 4.75 in	2.185 in	15-1480 psi	Air	UV
8 NPS	10 NPS	25.967 in <sup>2</sup>	[T] 5.75 in	2.625 in	15-1480 psi	Air	UV

Toro Field Services, LLC (TOR)

Nameplate Abbreviation: TORO FS

Odessa, TX 79764United States

This Company Manufactures or Assembles:

Design Name: 78 (Pilot Operated)		NBCert #	44053
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV	07/07/2029
Design Type			
[Pilot Operated Pressure Relief Valve] 78 (Pilot Operated) Capacity Tests: Sec. UV at National Board Testing Lab on August 5, 1999 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.878 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM Flow Technologies - France SAS {SAR}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.53 in	26.1-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.53 in	29-740 psi	Steam	UV
1-1.5 NPS	2 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.53 in	26.1-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.53 in	29-740 psi	Steam	UV
1-1.5 NPS	2 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.53 in	26.1-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.53 in	29-740 psi	Steam	UV
1.5-2 NPS	3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.7 in	26.1-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.7 in	29-740 psi	Steam	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.7 in	26.1-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.7 in	29-740 psi	Steam	UV
2-3 NPS	3,4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.8 in	26.1-6250 psi	Air	UV
2-3 NPS	3,4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.8 in	29-740 psi	Steam	UV
3 NPS	4 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	1.18 in	26.1-3750 psi	Air	UV
3 NPS	4 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	1.18 in	29-740 psi	Steam	UV
3-4 NPS	4,6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	1.18 in	26.1-3750 psi	Air	UV
3-4 NPS	4,6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	1.18 in	29-740 psi	Steam	UV
4 NPS	6 NPS	4.095 in <sup>2</sup>	[M] 2.284 in	1.57 in	26.1-3750 psi	Air	UV
4 NPS	6 NPS	4.095 in <sup>2</sup>	[M] 2.284 in	1.57 in	29-740 psi	Steam	UV
4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	1.57 in	26.1-3750 psi	Air	UV

4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	1.57 in	29-740 psi	Steam	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.57 in	26.1-3750 psi	Air	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.57 in	29-740 psi	Steam	UV
6 NPS	8 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	2.16 in	26.1-3750 psi	Air	UV
6 NPS	8 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	2.16 in	29-740 psi	Steam	UV
6 NPS	8 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.16 in	26.1-1500 psi	Air	UV
6 NPS	8 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.16 in	29-740 psi	Steam	UV
8-8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	2.99 in	26.1-1500 psi	Air	UV
8-8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	2.99 in	29-740 psi	Steam	UV

Design Name:	78 (Pilot Operated, Liquid)	NBCert #	44064
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/24/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 78 (Pilot Operated, Liquid)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on August 6, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.857 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.53 in	26.1-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.53 in	26.1-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.53 in	26.1-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.7 in	26.1-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.7 in	26.1-6250 psi	Water	UV
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.8 in	26.1-6250 psi	Water	UV
3 NPS	4 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	1.18 in	26.1-3750 psi	Water	UV
3-4 NPS	4, 6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	1.18 in	26.1-3750 psi	Water	UV
4 NPS	6 NPS	4.095 in <sup>2</sup>	[M] 2.283 in	1.57 in	26.1-3750 psi	Water	UV
4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	1.57 in	26.1-3750 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.57 in	26.1-3750 psi	Water	UV
6 NPS	8 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	2.16 in	26.1-3750 psi	Water	UV
6 NPS	8 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.16 in	26.1-1500 psi	Water	UV
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	2.99 in	26.1-1500 psi	Water	UV

Design Name:	9 Series	NBCert #	44019
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/24/2029



## Design Type

[Safety Relief Valve] 9 Series  
Capacity Tests: Sec. UV at National Board Testing Lab on July 24, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.823 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-4700 psi	Air	UV
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-4700 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Steam	UV

Design Name: P3, P4 (liquids) NBCert # 92012

## Manufacturer/Assembler

## Designators

## Expiration Date

Assembler

UV

03/24/2029

## Design Type

[Relief Valve] P3, P4 (liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V

6 NPS	8 NPS	12.914 in²	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in²	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in²	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V
Design Name: P3, P4, P5		NBCert #		92001			
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		07/07/2029		
Design Type							
[Safety Relief Valve] P3, P4, P5 Capacity Tests: Sec. UV at unknown lab on June 5, 1986 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.876 Unitless Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM Flow Technologies - France SAS {SAR}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.134 in²	[D] 0.413 in	0.128 in	15-10000 psi	Air	UV
1-2 NPS	2-3 NPS	0.134 in²	[D] 0.413 in	0.128 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in²	[E] 0.59 in	0.183 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in²	[E] 0.59 in	0.183 in	15-7500 psi	Air	UV
1.5 NPS	2-3 NPS	0.373 in²	[F] 0.689 in	0.214 in	15-2900 psi	Steam	UV
1.5 NPS	2-3 NPS	0.373 in²	[F] 0.689 in	0.214 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.589 in²	[G] 0.866 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.589 in²	[G] 0.866 in	0.268 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.881 in²	[H] 1.059 in	0.328 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.881 in²	[H] 1.059 in	0.328 in	15-5000 psi	Air	UV
2-3 NPS	3-4 NPS	1.457 in²	[J] 1.362 in	0.422 in	15-2900 psi	Steam	UV
2-3 NPS	3-4 NPS	1.457 in²	[J] 1.362 in	0.422 in	15-3200 psi	Air	UV
3 NPS	4-6 NPS	2.097 in²	[K] 1.634 in	0.506 in	15-2900 psi	Steam	UV
3 NPS	4-6 NPS	2.097 in²	[K] 1.634 in	0.506 in	15-3200 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in²	[L] 2.045 in	0.634 in	15-2000 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in²	[L] 2.045 in	0.634 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.093 in²	[M] 2.283 in	0.708 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.093 in²	[M] 2.283 in	0.708 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.987 in²	[N] 2.52 in	0.781 in	15-1300 psi	Air	UV
4 NPS	6 NPS	4.987 in²	[N] 2.52 in	0.781 in	15-1300 psi	Steam	UV
4 NPS	6 NPS	7.215 in²	[P] 3.031 in	0.94 in	15-1300 psi	Air	UV
4 NPS	6 NPS	7.215 in²	[P] 3.031 in	0.94 in	15-1300 psi	Steam	UV
6 NPS	8 NPS	12.914 in²	[Q] 4.055 in	1.257 in	15-1000 psi	Air	UV
6 NPS	8 NPS	12.914 in²	[Q] 4.055 in	1.257 in	15-1000 psi	Steam	UV
6 NPS	8-10 NPS	17.818 in²	[R] 4.763 in	1.477 in	15-700 psi	Air	UV
6 NPS	8-10 NPS	17.818 in²	[R] 4.763 in	1.477 in	15-700 psi	Steam	UV

8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Air	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Steam	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Air	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Steam	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Air	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Steam	UV

Total Valve Systems (TVO)

Broken Arrow, OK 74012United States

This Company Manufactures or Assembles:

Design Name: 2600 & 2600S		NBCert # 57057
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/21/2029
Design Type		
[Safety Relief Valve] 2600 & 2600S Capacity Tests: Sec. UV at unknown lab on June 11, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV

4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)

NBCert #

57260

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

04/11/2029

#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV

1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name: 2600L (Liquids)	NBCert # 57068
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/04/2029

Design Type
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[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V

1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name: 2700, 2700S, 3700, 3700S

NBCert #

57237

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

04/11/2029

#### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV

3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids) NBCert # 57248

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/04/2029

#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800 NBCert # 57024

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/14/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV

1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name:	3800FP	NBCert #	57035
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	12/19/2025
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV



1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name: 3800L, PCL, PCM pilots

NBCert #

57215

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

02/21/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.782 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV

6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

Design Name:	4200 / 4400	NBCert #	57282
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	04/11/2029

Design Type
[Safety Valve] 4200 / 4400 Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.872 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

Design Name:	TRV 6820	NBCert #	00606
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	09/25/2026

Design Type
[Spring Loaded Non-Reclosing Pressure Relief Device] TRV 6820 Capacity Tests: Sec. UD at Oklahoma Safety Equipment Company, Inc. (OSECO) on June 25, 2014 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg Certified Value: 9.530 Unitless Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Pop Flow Area Configuration: MNFA Designed by: Total Valve Systems {TVO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10-10 NPS	10 NPS	41.6 in <sup>2</sup>			15-1480 psi		UD
10-10 NPS	10 NPS	46.6 in <sup>2</sup>			15-740 psi		UD
10-10 NPS	10 NPS	49 in <sup>2</sup>			15-285 psi		UD
12-12 NPS	12 NPS	60.5 in <sup>2</sup>			15-1480 psi		UD

12-12 NPS	12 NPS	66.8 in <sup>2</sup>	15-740 psi	UD
12-12 NPS	12 NPS	75.5 in <sup>2</sup>	15-285 psi	UD
14-14 NPS	14 NPS	87.6 in <sup>2</sup>	15-1480 psi	UD
14-14 NPS	14 NPS	93.5 in <sup>2</sup>	15-740 psi	UD
14-14 NPS	14 NPS	97.6 in <sup>2</sup>	15-285 psi	UD
16-16 NPS	16 NPS	116.7 in <sup>2</sup>	15-1480 psi	UD
16-16 NPS	16 NPS	123.9 in <sup>2</sup>	15-740 psi	UD
16-16 NPS	16 NPS	128.6 in <sup>2</sup>	15-285 psi	UD
18-18 NPS	18 NPS	152.4 in <sup>2</sup>	15-1480 psi	UD
18-18 NPS	18 NPS	158.8 in <sup>2</sup>	15-740 psi	UD
18-18 NPS	18 NPS	164.2 in <sup>2</sup>	15-285 psi	UD
20-20 NPS	20 NPS	194.4 in <sup>2</sup>	15-1480 psi	UD
20-20 NPS	20 NPS	210.6 in <sup>2</sup>	15-285 psi	UD
20-20 NPS	20 NPS	204.5 in <sup>2</sup>	15-740 psi	UD
24-24 NPS	24 NPS	286.2 in <sup>2</sup>	15-1480 psi	UD
24-24 NPS	24 NPS	324.7 in <sup>2</sup>	15-285 psi	UD
24-24 NPS	24 NPS	307 in <sup>2</sup>	15-740 psi	UD
36-36 NPS	36 NPS	762.9 in <sup>2</sup>	15-740 psi	UD
36-36 NPS	36 NPS	787.7 in <sup>2</sup>	15-285 psi	UD
48-48 NPS	48 NPS	1358.2 in <sup>2</sup>	15-740 psi	UD
48-48 NPS	48 NPS	1425.5 in <sup>2</sup>	15-285 psi	UD
60-60 NPS	60 NPS	2267 in <sup>2</sup>	15-285 psi	UD
60-60 NPS	60 NPS	2169 in <sup>2</sup>	15-740 psi	UD
6-6 NPS	6 NPS	10.1 in <sup>2</sup>	15-1480 psi	UD
6-6 NPS	6 NPS	12.8 in <sup>2</sup>	15-740 psi	UD
6-6 NPS	6 NPS	15.5 in <sup>2</sup>	15-285 psi	UD
72-72 NPS	72 NPS	3174 in <sup>2</sup>	15-740 psi	UD
72-72 NPS	72 NPS	3334 in <sup>2</sup>	15-285 psi	UD
84-84 NPS	84 NPS	4270 in <sup>2</sup>	15-740 psi	UD
84-84 NPS	84 NPS	4546 in <sup>2</sup>	15-285 psi	UD
8-8 NPS	8 NPS	23.2 in <sup>2</sup>	15-1480 psi	UD
8-8 NPS	8 NPS	27.8 in <sup>2</sup>	15-740 psi	UD
8-8 NPS	8 NPS	29.2 in <sup>2</sup>	15-285 psi	UD

**TRILLIUM Flow Technologies - France SAS (SAR)**

Nameplate Abbreviation: TRILLIUM  
FLOW TECHNOLOGIES

Vendin-le-Vieil, 62880France

**This Company Manufactures or Assembles:**

Design Name: 74 Series		NBCert # 44097
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/04/2028
Design Type		
[Pilot Operated Pressure Relief Valve] 74 Series Capacity Tests: Sec. UV at National Board Testing Lab on January 13, 2016 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.831 Unitless Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM Flow Technologies - France SAS {SAR}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 in	3 in	3.044 in <sup>2</sup>	1.968 in	0.886 in	15-30 psi	Air	UV
3 in	4 in	7.792 in <sup>2</sup>	3.15 in	1.417 in	15-30 psi	Air	UV
4 in	6 in	12.174 in <sup>2</sup>	3.937 in	1.772 in	15-30 psi	Air	UV
6 NPS	8 NPS	27.39 in <sup>2</sup>	5.906 in	2.953 in	15-30 psi	Air	UV
8 NPS	10 NPS	48.695 in <sup>2</sup>	7.874 in	3.937 in	15-30 psi	Air	UV
10 NPS	12 NPS	76.085 in <sup>2</sup>	9.842 in	4.921 in	15-30 psi	Air	UV
12 NPS	16 NPS	109.56 in <sup>2</sup>	11.811 in	5.906 in	15-30 psi	Air	UV
14 NPS	18 NPS	149.13 in <sup>2</sup>	13.78 in	6.89 in	15-30 psi	Air	UV

Design Name: 76 Series		NBCert # 44042
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/29/2026
Design Type		
[Pilot Operated Pressure Relief Valve] 76 Series Capacity Tests: Sec. UV at National Board Testing Lab on July 24, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.848 Unitless Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM Flow Technologies - France SAS {SAR}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS		0.124 in <sup>2</sup>	[D] 0.394 in	0.102 in	26.1-10000 psi	Air	UV
1-1.5 NPS		0.124 in <sup>2</sup>	[D] 0.394 in	0.102 in	26.1-4350 psi	Steam	UV
1-1.5 NPS		0.222 in <sup>2</sup>	[E] 0.531 in	0.134 in	26.1-4350 psi	Steam	UV
1-1.5 NPS		0.222 in <sup>2</sup>	[E] 0.531 in	0.134 in	26.1-6250 psi	Air	UV
1-1.5 NPS		0.352 in <sup>2</sup>	[F] 0.669 in	0.169 in	26.1-4350 psi	Steam	UV
1-1.5 NPS		0.352 in <sup>2</sup>	[F] 0.669 in	0.169 in	26.1-6250 psi	Air	UV
1.5-2 NPS		0.568 in <sup>2</sup>	[G] 0.85 in	0.217 in	26.1-4350 psi	Steam	UV
1.5-2 NPS		0.568 in <sup>2</sup>	[G] 0.85 in	0.217 in	26.1-6250 psi	Air	UV

1.5-2 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.272 in	26.1-4350 psi	Steam	UV
1.5-2 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.272 in	26.1-6250 psi	Air	UV
2-3 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.346 in	26.1-10000 psi	Air	UV
2-3 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.346 in	26.1-10000 psi	Steam	UV
3 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.413 in	26.1-10000 psi	Air	UV
3 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.413 in	26.1-10000 psi	Steam	UV
3-4 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	0.516 in	26.1-3750 psi	Air	UV
3-4 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	0.516 in	26.1-3750 psi	Steam	UV
3-4 NPS	3.818 in <sup>2</sup>	[M] 2.205 in	0.579 in	26.1-3750 psi	Air	UV
3-4 NPS	3.818 in <sup>2</sup>	[M] 2.205 in	0.579 in	26.1-3750 psi	Steam	UV
4 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	0.665 in	26.1-2250 psi	Air	UV
4 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	0.665 in	26.1-2250 psi	Steam	UV
4 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.771 in	26.1-2250 psi	Air	UV
4 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.771 in	26.1-2250 psi	Steam	UV
6 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	1.011 in	26.1-2250 psi	Air	UV
6 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	1.011 in	26.1-2250 psi	Steam	UV
6 NPS	15.9 in <sup>2</sup>	[R] 4.5 in	1.217 in	26.1-2250 psi	Air	UV
6 NPS	15.9 in <sup>2</sup>	[R] 4.5 in	1.217 in	26.1-2250 psi	Steam	UV
8 NPS	22.19 in <sup>2</sup>	[S] 5.315 in	1.331 in	26.1-1495 psi	Air	UV
8 NPS	22.19 in <sup>2</sup>	[S] 5.315 in	1.331 in	26.1-1495 psi	Steam	UV
8 NPS	28.27 in <sup>2</sup>	[T] 6 in	1.551 in	26.1-1495 psi	Air	UV
8 NPS	28.27 in <sup>2</sup>	[T] 6 in	1.551 in	26.1-1495 psi	Steam	UV
10 NPS	39.44 in <sup>2</sup>	[U] 7.087 in	1.771 in	26.1-290 psi	Air	UV
10 NPS	39.44 in <sup>2</sup>	[U] 7.087 in	1.771 in	26.1-290 psi	Steam	UV
12 NPS	61.63 in <sup>2</sup>	[W] 8.858 in	2.217 in	26.1-290 psi	Air	UV
12 NPS	61.63 in <sup>2</sup>	[W] 8.858 in	2.217 in	26.1-290 psi	Steam	UV

Design Name:	76 Series (Liquid)	NBCert #	92056
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV, V	03/19/2026
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#### Design Type

[Pilot Operated Pressure Relief Valve] 76 Series (Liquid)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 7, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.850 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.102 in	100-10000 psi	Water	UV
1-1.5 NPS	2, 3 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.134 in	100-6960 psi	Water	UV
1.5-1.5 NPS	2, 3 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.169 in	100-6960 psi	Water	UV

1.5-2 NPS	3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.217 in	100-6960 psi	Water	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.272 in	100-6960 psi	Water	UV
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.346 in	100-3750 psi	Water	UV
3-3 NPS	4, 6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.413 in	100-3750 psi	Water	UV
3-4 NPS	6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	0.516 in	100-10000 psi	Water	UV
4-4 NPS	6 NPS	3.818 in <sup>2</sup>	[M] 2.205 in	0.579 in	100-3750 psi	Water	UV
4-4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	0.665 in	100-3750 psi	Water	UV
4-4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.771 in	100-3750 psi	Water	UV
6-6 NPS	8 NPS	12.92 in <sup>2</sup>	[Q] 4.055 in	1.011 in	100-3750 psi	Water	UV
6-6 NPS	8, 10 NPS	15.9 in <sup>2</sup>	[R] 4.5 in	1.217 in	100-3750 psi	Water	UV
8-8 NPS	10 NPS	22.19 in <sup>2</sup>	[S] 5.315 in	1.331 in	100-1500 psi	Water	UV
8-8 NPS	10 NPS	28.27 in <sup>2</sup>	[T] 6 in	1.551 in	100-1500 psi	Water	UV
10-10 NPS	14 NPS	39.44 in <sup>2</sup>	[U,V] 7.087 in	1.771 in	100-750 psi	Water	UV
12-12 NPS	2x12 NPS	61.63 in <sup>2</sup>	[W] 8.858 in	2.217 in	100-750 psi	Water	UV

Design Name: 76 Series Steam & Liquid (Water K=0.850) NBCert # 44031

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer V 12/03/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 76 Series Steam & Liquid (Water K=0.850)  
Capacity Tests: Sec. V at National Board Testing Lab on October 27, 2014  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.873 Unitless; (alternate medium): 0.850 Unitless  
Media - Test: Liquid, Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}  
Comments: Ref.: Code Case 2446

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	100-6960 psi	Steam	V
1-1.5 NPS	2, 3 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	100-6960 psi	Water	V
1-1.5 NPS	2, 3 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.13 in	100-6960 psi	Steam	V
1-1.5 NPS	2, 3 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.13 in	100-6960 psi	Water	V
1-1.5 NPS	2, 3 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.17 in	100-6960 psi	Steam	V
1-1.5 NPS	2, 3 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.17 in	100-6960 psi	Water	V
1.5-2 NPS	2, 3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.21 in	100-6960 psi	Steam	V
1.5-2 NPS	2, 3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.21 in	100-6960 psi	Water	V
1.5-2 NPS	2, 3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.43 in	100-6960 psi	Steam	V
1.5-2 NPS	2, 3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.43 in	100-6960 psi	Water	V
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.34 in	100-6960 psi	Steam	V
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.34 in	100-6960 psi	Water	V
3 NPS	4, 6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.41 in	100-6960 psi	Steam	V
3 NPS	4, 6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.41 in	100-6960 psi	Water	V

3-4 NPS	4, 6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	0.51 in	100-3750 psi	Steam	V
3-4 NPS	4, 6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	0.51 in	100-3750 psi	Water	V
4 NPS	6 NPS	3.818 in <sup>2</sup>	[M] 2.205 in	0.57 in	100-3750 psi	Steam	V
4 NPS	6 NPS	3.818 in <sup>2</sup>	[M] 2.205 in	0.57 in	100-3750 psi	Water	V
4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	0.64 in	100-3750 psi	Steam	V
4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	0.64 in	100-3750 psi	Water	V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.75 in	100-3750 psi	Steam	V
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.75 in	100-3750 psi	Water	V
6 NPS	8 NPS	12.92 in <sup>2</sup>	[Q] 4.055 in	1.01 in	100-3750 psi	Steam	V
6 NPS	8 NPS	12.92 in <sup>2</sup>	[Q] 4.055 in	1.01 in	100-3750 psi	Water	V
6 NPS	8,10 NPS	15.9 in <sup>2</sup>	[R] 4.5 in	1.13 in	100-3750 psi	Steam	V
6 NPS	8,10 NPS	15.9 in <sup>2</sup>	[R] 4.5 in	1.13 in	100-3750 psi	Water	V
8 NPS	10 NPS	22.19 in <sup>2</sup>	[S] 5.315 in	1.33 in	100-1500 psi	Steam	V
8 NPS	10 NPS	22.19 in <sup>2</sup>	[S] 5.315 in	1.33 in	100-1500 psi	Water	V
8 NPS	10 NPS	28.27 in <sup>2</sup>	[T] 6 in	1.5 in	100-1500 psi	Steam	V
8 NPS	10 NPS	28.27 in <sup>2</sup>	[T] 6 in	1.5 in	100-1500 psi	Water	V
10 NPS	14 NPS	39.44 in <sup>2</sup>	[U] 7.087 in	1.77 in	100-750 psi	Steam	V
10 NPS	14 NPS	39.44 in <sup>2</sup>	[U] 7.087 in	1.77 in	100-750 psi	Water	V
12 NPS	2x12 NPS	61.63 in <sup>2</sup>	[W] 8.858 in	2.21 in	100-750 psi	Steam	V
12 NPS	2x12 NPS	61.63 in <sup>2</sup>	[W] 8.858 in	2.21 in	100-750 psi	Water	V

Design Name: 78 (Pilot Operated, Liquid) NBCert # 44064

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	04/17/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 78 (Pilot Operated, Liquid)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on August 6, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.857 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.53 in	26.1-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.53 in	26.1-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.53 in	26.1-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.7 in	26.1-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.7 in	26.1-6250 psi	Water	UV
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.8 in	26.1-6250 psi	Water	UV
3 NPS	4 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	1.18 in	26.1-3750 psi	Water	UV
3-4 NPS	4, 6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	1.18 in	26.1-3750 psi	Water	UV
4 NPS	6 NPS	4.095 in <sup>2</sup>	[M] 2.283 in	1.57 in	26.1-3750 psi	Water	UV

4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	1.57 in	26.1-3750 psi	Water	UV
4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	1.57 in	26.1-3750 psi	Water	UV
6 NPS	8 NPS	12.915 in <sup>2</sup>	[Q] 4.055 in	2.16 in	26.1-3750 psi	Water	UV
6 NPS	8 NPS	15.904 in <sup>2</sup>	[R] 4.5 in	2.16 in	26.1-1500 psi	Water	UV
8 NPS	10 NPS	28.274 in <sup>2</sup>	[T] 6 in	2.99 in	26.1-1500 psi	Water	UV

Design Name:	78FB Series	NBCert #	44075
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/18/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 78FB Series  
Capacity Tests: Sec. UV at National Board Testing Lab on December 13, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.832 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.5 in <sup>2</sup>	1.382 in	0.691 in	15-6236 psi	Air	UV
1.5 NPS	2 NPS	1.5 in <sup>2</sup>	1.382 in	0.691 in	15-720 psi	Steam	UV
2 NPS	3, 3 Dual NPS	3.04 in <sup>2</sup>	1.969 in	0.984 in	15-6236 psi	Air	UV
2 NPS	3, 3 Dual NPS	3.04 in <sup>2</sup>	1.969 in	0.984 in	15-720 psi	Steam	UV
3 NPS	4, 4 Dual NPS	6.74 in <sup>2</sup>	2.929 in	1.465 in	15-3742 psi	Air	UV
3 NPS	4, 4 Dual NPS	6.74 in <sup>2</sup>	2.929 in	1.465 in	15-720 psi	Steam	UV
4 NPS	6, 6 Dual NPS	12.17 in <sup>2</sup>	3.937 in	1.969 in	15-3742 psi	Air	UV
4 NPS	6, 6 Dual NPS	12.17 in <sup>2</sup>	3.937 in	1.969 in	15-720 psi	Steam	UV
6 NPS	8, 8 Dual NPS	23.86 in <sup>2</sup>	5.512 in	2.756 in	15-1494 psi	Air	UV
6 NPS	8, 8 Dual NPS	23.86 in <sup>2</sup>	5.512 in	2.756 in	15-720 psi	Steam	UV
8 NPS	8 Dual NPS	38.139 in <sup>2</sup>	6.969 in	3.484 in	15-1494 psi	Air	UV
8 NPS	8 Dual NPS	38.139 in <sup>2</sup>	6.969 in	3.484 in	15-720 psi	Steam	UV
8 NPS	10, 10 Dual NPS	44.41 in <sup>2</sup>	7.52 in	4.793 in	15-1494 psi	Air	UV
8 NPS	10, 10 Dual NPS	44.41 in <sup>2</sup>	7.52 in	4.793 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.18 in <sup>2</sup>	9.587 in	4.793 in	15-740 psi	Air	UV
10 NPS	14 NPS	72.18 in <sup>2</sup>	9.587 in	4.793 in	15-720 psi	Steam	UV

Design Name:	78FB Series (Liquid)	NBCert #	44086
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/18/2028



## Design Type

[Pilot Operated Pressure Relief Valve] 78FB Series (Liquid)  
 Capacity Tests: Sec. UV at National Board Testing Lab on January 21, 2022  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.705 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.5 in <sup>2</sup>	1.382 in	0.691 in	15-6236 psi	Water	UV
2 NPS	3, 3 Dual NPS	3.04 in <sup>2</sup>	1.969 in	0.984 in	15-6236 psi	Water	UV
3 NPS	4, 4 Dual NPS	6.74 in <sup>2</sup>	2.929 in	1.465 in	15-3742 psi	Water	UV
4 NPS	6, 6 Dual NPS	12.17 in <sup>2</sup>	3.937 in	1.969 in	15-3742 psi	Water	UV
6 NPS	8, 8 Dual NPS	23.86 in <sup>2</sup>	5.512 in	2.756 in	15-1494 psi	Water	UV
8 NPS	8 Dual NPS	38.139 in <sup>2</sup>	6.969 in	3.484 in	15-1494 psi	Water	UV
8 NPS	10, 10 Dual NPS	44.41 in <sup>2</sup>	7.52 in	4.793 in	15-1494 psi	Water	UV
10 NPS	14 NPS	72.18 in <sup>2</sup>	9.587 in	4.793 in	15-740 psi	Water	UV

Design Name: 9 Series

NBCert # 44019

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	06/30/2026

## Design Type

[Safety Relief Valve] 9 Series  
 Capacity Tests: Sec. UV at National Board Testing Lab on July 24, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.823 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition: Initial Audible Discharge  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-4700 psi	Air	UV
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	0.236 in	0.07 in	15-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-2900 psi	Steam	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	0.398 in	0.1 in	14.5-4700 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Air	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	0.531 in	0.13 in	14.5-2220 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	0.669 in	0.17 in	14.5-740 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	0.85 in	0.21 in	14.5-285 psi	Steam	UV

Design Name:	9 Series (Liquids)	NBCert #	44020
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/09/2026

### Design Type

[Relief Valve] 9 Series (Liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on July 24, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.632 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	[B] 0.236 in	0.07 in	15-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	14.5-6250 psi	Water	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.13 in	14.5-2220 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.17 in	14.5-740 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.21 in	14.5-285 psi	Water	UV

Design Name:	P3, P4 (liquids)	NBCert #	92012
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV, V	04/17/2030

### Design Type

[Relief Valve] P3, P4 (liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V

6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in <sup>2</sup>	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in <sup>2</sup>	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V

TRILLIUM FLOW TECHNOLOGIES FRANCE SAS (WPI)

SAINT VICTORET, 13730France

This Company Manufactures or Assembles:

Design Name:	9 Series (Liquids)	NBCert #	44020
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Manufacturer/Assembler	Designators	Expiration Date
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ManufacturerNV07/08/2028

Design Type

[Relief Valve] 9 Series (Liquids)  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on July 24, 1997  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.632 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	[B] 0.236 in	0.07 in	15-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	14.5-6250 psi	Water	UV
0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.13 in	14.5-2220 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.17 in	14.5-740 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.21 in	14.5-285 psi	Water	UV

Design Name:	9 Series LBD	NBCert #	92450
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Manufacturer/Assembler	Designators	Expiration Date
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ManufacturerNV, -Class 303/14/2029

Design Type

[Safety Relief Valve] 9 Series LBD  
 Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on March 14, 2023  
 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
 Certified Value:47.900 GPM  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: TRILLIUM FLOW TECHNOLOGIES FRANCE SAS {WPI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	200-200 psi	Water	NV, -Class 3

Design Name:	P3, P4 (liquids)	NBCert #	92012
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV, -Class 3	05/24/2028

### Design Type

[Relief Valve] P3, P4 (liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in <sup>2</sup>	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in <sup>2</sup>	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V

Design Name:	P3, P4, P5	NBCert #	92001
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV, -Class 3	05/24/2028

### Design Type

[Safety Relief Valve] P3, P4, P5  
Capacity Tests: Sec. UV at unknown lab on June 5, 1986  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.876 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Air	UV
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-2900 psi	Steam	UV

1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Air	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-2900 psi	Steam	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Air	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-2900 psi	Steam	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Air	UV
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-2900 psi	Steam	UV
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Air	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Steam	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Air	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Steam	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Air	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Steam	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Air	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Steam	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Air	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Steam	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Air	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Steam	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Air	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Steam	UV

Design Name: SD04X25

NBCert # 92461

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	NV	12/20/2028

#### Design Type

[Vacuum Relief Valve] SD04X25  
Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on December 20, 2022  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:152.00 SCFM  
Media - Test: Air/Gas; Certified: Air/Gas  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM FLOW TECHNOLOGIES FRANCE SAS {WPI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	1.5 NPS	2.63 in²	1.83 in	0.417 in	-0.3-0 psi	Air	NV, -Class 3
Design Name: SD05A01			NBCert #		92472		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			NV, -Class 3			05/18/2029	
Design Type							
[Vacuum Relief Valve] SD05A01 Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab {unknown test date} Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:286.00 SCFM Media - Test: Air/Gas; Certified: Air/Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM FLOW TECHNOLOGIES FRANCE SAS {WPI} Comments: Test at 5 psi max.							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	3.8 in²	2.2 in	0.502 in	-3-0 psi	Air	NV, -Class 3
Design Name: SD10X01			NBCert #		92483		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			NV, -Class 3			03/14/2029	
Design Type							
[Vacuum Relief Valve] SD10X01 Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on March 14, 2023 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:788.00 SCFM Media - Test: Air/Gas; Certified: Air/Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM FLOW TECHNOLOGIES FRANCE SAS {WPI}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	4 NPS	16.47 in²	4.58 in	1.044 in	-0.2--0.2 psi	Air	NV, -Class 3
Design Name: SD10X06			NBCert #		92494		
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			NV, -Class 3			03/14/2029	
Design Type							
[Vacuum Relief Valve] SD10X06 Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on March 14, 2023 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:806.00 SCFM Media - Test: Air/Gas; Certified: Air/Gas Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Designed by: TRILLIUM FLOW TECHNOLOGIES FRANCE SAS {WPI}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
4 NPS	4 NPS	16.47 in²	4.58 in	1.044 in	-0.3--0.3 psi	Air	NV, -Class 3
Design Name: Starflow P Series (3 psi)				NBCert #	92449		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			NV, -Class 3		05/25/2028		
Design Type							
[Safety Relief Valve] Starflow P Series (3 psi) Capacity Tests: Sec. NV, -Class 3 at National Board Testing Lab on May 25, 2022 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value: 0.000 SCFM Media - Test: Air/Gas; Certified: Air Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM FLOW TECHNOLOGIES FRANCE SAS {WPI}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2-2 NPS	3 NPS	0.274 in²	[E] 0.591 in	0.183 in	3-3 psi	Air	NV, -Class 3
Design Name: Starflow SF							
NBCert #				92438			
Manufacturer/Assembler			Designators			Expiration Date	
Manufacturer			NV, -Class 2, -Class 3			02/09/2029	
Design Type							
[Safety Relief Valve] Starflow SF Capacity Tests: Sec. NV, -Class 2, -Class 3 at National Board Testing Lab on February 6, 2023 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.590 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: TRILLIUM FLOW TECHNOLOGIES FRANCE SAS {WPI}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	80-900 psi	Water	NV, -Class 2, -Class 3

## Trillium Flow Technologies Suzhou Ltd (WSZ)

Jiangsu, 215555People's Republic of China

### This Company Manufactures or Assembles:

Design Name: P3, P4 (liquids)			NBCert #		92012		
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		04/16/2030		

## Design Type

[Relief Valve] P3, P4 (liquids)  
 Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.631 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in <sup>2</sup>	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in <sup>2</sup>	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V

Design Name: P3, P4, P5

NBCert # 92001

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	01/17/2030

## Design Type

[Safety Relief Valve] P3, P4, P5  
 Capacity Tests: Sec. UV at unknown lab on June 5, 1986  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.876 Unitless  
 Media - Test: Air/Gas; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Air	UV
1-2 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-2900 psi	Steam	UV
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Air	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-2900 psi	Steam	UV
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-2900 psi	Steam	UV



1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Air	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-2900 psi	Steam	UV
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Air	UV
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-2900 psi	Steam	UV
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Air	UV
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Air	UV
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Steam	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Air	UV
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Steam	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Air	UV
4 NPS	6 NPS	7.215 in <sup>2</sup>	[P] 3.031 in	0.94 in	15-1300 psi	Steam	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Air	UV
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Steam	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Air	UV
6 NPS	8-10 NPS	17.818 in <sup>2</sup>	[R] 4.763 in	1.477 in	15-700 psi	Steam	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Air	UV
8 NPS	10 NPS	28.871 in <sup>2</sup>	[T] 6.063 in	1.88 in	15-600 psi	Steam	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Air	UV
10 NPS	14 NPS	46.759 in <sup>2</sup>	[V] 7.716 in	2.392 in	15-450 psi	Steam	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Air	UV
12 NPS	Dual 12 NPS	70.108 in <sup>2</sup>	[W] 9.448 in	2.93 in	15-450 psi	Steam	UV

## Trillium Services Deer Park (DEE)

Deer Park, TX 77536United States

### This Company Manufactures or Assembles:

Design Name: 76 Series (Liquid)		NBCert #	92056
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UV	08/22/2025	
Design Type			

[Pilot Operated Pressure Relief Valve] 76 Series (Liquid)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 7, 2013  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.850 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.102 in	100-10000 psi	Water	UV
1-1.5 NPS	2, 3 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.134 in	100-6960 psi	Water	UV
1.5-1.5 NPS	2, 3 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.169 in	100-6960 psi	Water	UV
1.5-2 NPS	3 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.217 in	100-6960 psi	Water	UV
1.5-2 NPS	3 NPS	0.887 in <sup>2</sup>	[H] 1.063 in	0.272 in	100-6960 psi	Water	UV
2-3 NPS	3, 4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.346 in	100-3750 psi	Water	UV
3-3 NPS	4, 6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.413 in	100-3750 psi	Water	UV
3-4 NPS	6 NPS	3.229 in <sup>2</sup>	[L] 2.028 in	0.516 in	100-10000 psi	Water	UV
4-4 NPS	6 NPS	3.818 in <sup>2</sup>	[M] 2.205 in	0.579 in	100-3750 psi	Water	UV
4-4 NPS	6 NPS	5.143 in <sup>2</sup>	[N] 2.559 in	0.665 in	100-3750 psi	Water	UV
4-4 NPS	6 NPS	7.069 in <sup>2</sup>	[P] 3 in	0.771 in	100-3750 psi	Water	UV
6-6 NPS	8 NPS	12.92 in <sup>2</sup>	[Q] 4.055 in	1.011 in	100-3750 psi	Water	UV
6-6 NPS	8, 10 NPS	15.9 in <sup>2</sup>	[R] 4.5 in	1.217 in	100-3750 psi	Water	UV
8-8 NPS	10 NPS	22.19 in <sup>2</sup>	[S] 5.315 in	1.331 in	100-1500 psi	Water	UV
8-8 NPS	10 NPS	28.27 in <sup>2</sup>	[T] 6 in	1.551 in	100-1500 psi	Water	UV
10-10 NPS	14 NPS	39.44 in <sup>2</sup>	[U,V] 7.087 in	1.771 in	100-750 psi	Water	UV
12-12 NPS	2x12 NPS	61.63 in <sup>2</sup>	[W] 8.858 in	2.217 in	100-750 psi	Water	UV

Design Name: 78FB Series	NBCert # 44075
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UV	05/03/2030
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#### Design Type

[Pilot Operated Pressure Relief Valve] 78FB Series  
Capacity Tests: Sec. UV at National Board Testing Lab on December 13, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.832 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.5 in <sup>2</sup>	1.382 in	0.691 in	15-6236 psi	Air	UV
1.5 NPS	2 NPS	1.5 in <sup>2</sup>	1.382 in	0.691 in	15-720 psi	Steam	UV
2 NPS	3, 3 Dual NPS	3.04 in <sup>2</sup>	1.969 in	0.984 in	15-6236 psi	Air	UV
2 NPS	3, 3 Dual NPS	3.04 in <sup>2</sup>	1.969 in	0.984 in	15-720 psi	Steam	UV
3 NPS	4, 4 Dual NPS	6.74 in <sup>2</sup>	2.929 in	1.465 in	15-3742 psi	Air	UV
3 NPS	4, 4 Dual NPS	6.74 in <sup>2</sup>	2.929 in	1.465 in	15-720 psi	Steam	UV
4 NPS	6, 6 Dual NPS	12.17 in <sup>2</sup>	3.937 in	1.969 in	15-3742 psi	Air	UV
4 NPS	6, 6 Dual NPS	12.17 in <sup>2</sup>	3.937 in	1.969 in	15-720 psi	Steam	UV
6 NPS	8, 8 Dual NPS	23.86 in <sup>2</sup>	5.512 in	2.756 in	15-1494 psi	Air	UV
6 NPS	8, 8 Dual NPS	23.86 in <sup>2</sup>	5.512 in	2.756 in	15-720 psi	Steam	UV

8 NPS	8 Dual NPS	38.139 in <sup>2</sup>	6.969 in	3.484 in	15-1494 psi	Air	UV
8 NPS	8 Dual NPS	38.139 in <sup>2</sup>	6.969 in	3.484 in	15-720 psi	Steam	UV
8 NPS	10, 10 Dual NPS	44.41 in <sup>2</sup>	7.52 in	4.793 in	15-1494 psi	Air	UV
8 NPS	10, 10 Dual NPS	44.41 in <sup>2</sup>	7.52 in	4.793 in	15-720 psi	Steam	UV
10 NPS	14 NPS	72.18 in <sup>2</sup>	9.587 in	4.793 in	15-740 psi	Air	UV
10 NPS	14 NPS	72.18 in <sup>2</sup>	9.587 in	4.793 in	15-720 psi	Steam	UV

Design Name: 78FB Series (Liquid) NBCert # 44086

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 06/28/2028

#### Design Type

[Pilot Operated Pressure Relief Valve] 78FB Series (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on January 21, 2022  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.705 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.5 in <sup>2</sup>	1.382 in	0.691 in	15-6236 psi	Water	UV
2 NPS	3, 3 Dual NPS	3.04 in <sup>2</sup>	1.969 in	0.984 in	15-6236 psi	Water	UV
3 NPS	4, 4 Dual NPS	6.74 in <sup>2</sup>	2.929 in	1.465 in	15-3742 psi	Water	UV
4 NPS	6, 6 Dual NPS	12.17 in <sup>2</sup>	3.937 in	1.969 in	15-3742 psi	Water	UV
6 NPS	8, 8 Dual NPS	23.86 in <sup>2</sup>	5.512 in	2.756 in	15-1494 psi	Water	UV
8 NPS	8 Dual NPS	38.139 in <sup>2</sup>	6.969 in	3.484 in	15-1494 psi	Water	UV
8 NPS	10, 10 Dual NPS	44.41 in <sup>2</sup>	7.52 in	4.793 in	15-1494 psi	Water	UV
10 NPS	14 NPS	72.18 in <sup>2</sup>	9.587 in	4.793 in	15-740 psi	Water	UV

Design Name: 9 Series (Liquids) NBCert # 44020

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 01/10/2026

#### Design Type

[Relief Valve] 9 Series (Liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on July 24, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.632 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	0.5, 1 NPS	0.0438 in <sup>2</sup>	[B] 0.236 in	0.07 in	15-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.124 in <sup>2</sup>	[D] 0.398 in	0.1 in	14.5-6250 psi	Water	UV

0.75-1 NPS	1 NPS	0.222 in <sup>2</sup>	[E] 0.531 in	0.13 in	14.5-2220 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.352 in <sup>2</sup>	[F] 0.669 in	0.17 in	14.5-740 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.568 in <sup>2</sup>	[G] 0.85 in	0.21 in	14.5-285 psi	Water	UV

Design Name:	P3, P4 (liquids)	NBCert #	92012
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UV 08/22/2025

#### Design Type

[Relief Valve] P3, P4 (liquids)  
Capacity Tests: Sec. UV, V at National Board Testing Lab on December 7, 1993  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.631 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: TRILLIUM Flow Technologies - France SAS {SAR}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.134 in <sup>2</sup>	[D] 0.413 in	0.128 in	15-10000 psi	Water	UV, V
1-1.5 NPS	2-3 NPS	0.273 in <sup>2</sup>	[E] 0.59 in	0.183 in	15-7500 psi	Water	UV, V
1.5 NPS	2-3 NPS	0.373 in <sup>2</sup>	[F] 0.689 in	0.214 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.589 in <sup>2</sup>	[G] 0.866 in	0.268 in	15-6000 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.881 in <sup>2</sup>	[H] 1.059 in	0.328 in	15-5000 psi	Water	UV, V
2-3 NPS	3-4 NPS	1.457 in <sup>2</sup>	[J] 1.362 in	0.422 in	15-3200 psi	Water	UV, V
3 NPS	4-6 NPS	2.097 in <sup>2</sup>	[K] 1.634 in	0.506 in	15-3200 psi	Water	UV, V
3-4 NPS	4-6 NPS	3.284 in <sup>2</sup>	[L] 2.045 in	0.634 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.093 in <sup>2</sup>	[M] 2.283 in	0.708 in	15-2000 psi	Water	UV, V
4 NPS	6 NPS	4.987 in <sup>2</sup>	[N] 2.52 in	0.781 in	15-1300 psi	Water	UV, V
4 NPS	6 NPS	7.032 in <sup>2</sup>	[P] 2.992 in	0.94 in	15-1300 psi	Water	UV, V
6 NPS	8 NPS	12.914 in <sup>2</sup>	[Q] 4.055 in	1.257 in	15-1000 psi	Water	UV, V
6 NPS	8-10 NPS	15.267 in <sup>2</sup>	[R] 4.409 in	1.477 in	15-500 psi	Water	UV, V
8 NPS	10 NPS	28.126 in <sup>2</sup>	[T] 5.984 in	1.88 in	15-500 psi	Water	UV, V

## Tri-State Valves & Controls, Inc. (PLD)

Indianapolis, IN 46219United States

### This Company Manufactures or Assembles:

Design Name:	Kunkle 6000, 6252 Series	NBCert #	36324
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 08/02/2025

## Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
 Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV

6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name:	Kunkle 910 to 919	NBCert #	36100
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/02/2025

#### Design Type

[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name:	Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)	NBCert #	36111
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/28/2025

#### Design Type

[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

## Tundra Process Solutions Ltd. (TPS)

Edmonton, AB T5S 2L2Canada

### This Company Manufactures or Assembles:

Design Name: 2600 & 2600S		NBCert #	57057
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV	01/04/2030	
Design Type			
<div>[Safety Relief Valve] 2600 &amp; 2600S</div> <div>Capacity Tests: Sec. UV at unknown lab on June 11, 1972</div> <div>Method of Establishing Relieving Capacity: Flow Capacity, K</div> <div>Certified Value: 0.858 Unitless</div> <div>Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam</div> <div>Set Pressure Definition: Pop</div> <div>Blowdown Characteristics: Adjustable (Single Ring)</div> <div>Flow Area Configuration: Nozzle/Full Lift</div> <div>Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}</div>			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV

3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name:	2600 Series Restricted Lift version of Cert Number 57057	NBCert #	57406
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/08/2030
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#### Design Type

[Safety Relief Valve] 2600 Series Restricted Lift version of Cert Number 57057  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 10, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Steam	UV



1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Steam	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Steam	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Air	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Steam	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Air	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Steam	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Air	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Steam	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Air	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Steam	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Air	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Steam	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Air	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Steam	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Air	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Steam	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Air	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Steam	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Air	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Steam	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Air	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Steam	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Air	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Steam	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Air	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Steam	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Air	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Steam	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Air	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Steam	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Air	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Steam	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Air	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Steam	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Air	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Steam	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Air	UV
20 in	24 in	176.7 in <sup>2</sup>	[Z] 15 in	1.35 in	15-750 psi	Steam	UV

Design Name: 2600L (Air & Steam)	NBCert # 57260
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	06/14/2027
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#### Design Type

[Safety Relief Valve] 2600L (Air & Steam)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV
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Design Name:	2600L (Air & Steam) Series Restricted Lift version of Cert Number 57260	NBCert #	57439
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	08/08/2030
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Design Type
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[Safety Relief Valve] 2600L (Air & Steam) Series Restricted Lift version of Cert Number 57260  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 6, 2018  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-2900 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.089 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.089 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.111 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.111 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.142 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.142 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.169 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.169 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.211 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.211 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.237 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.237 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.26 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.26 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.315 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.315 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.415 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.415 in	15-2000 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	0.5 in	15-1500 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	0.5 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	0.638 in	15-1000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	0.638 in	15-1000 psi	Steam	UV

8 NPS	10 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	0.665 in	15-300 psi	Air	UV
8 NPS	10 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	0.665 in	15-300 psi	Steam	UV

Design Name:	2600L (Liquids)	NBCert #	57068
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 01/04/2030

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2600L (Liquids) Series Restricted Lift version of Cert Number 57068.	NBCert #	57417
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 11/28/2029

#### Design Type

[Safety Relief Valve] 2600L (Liquids) Series Restricted Lift version of Cert Number 57068.  
Capacity Tests: Sec. UV, V at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on January 23, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Water	UV, V
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-6000 psi	Water	UV, V
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-5000 psi	Water	UV, V
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.098 in	15-3600 psi	Water	UV, V
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.122 in	15-2750 psi	Water	UV, V
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.156 in	15-2700 psi	Water	UV, V
3 in	4, 6 in	2.041 in <sup>2</sup>	[K] 1.612 in	0.187 in	15-2200 psi	Water	UV, V
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.232 in	15-1500 psi	Water	UV, V
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.261 in	15-1100 psi	Water	UV, V
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.287 in	15-1000 psi	Water	UV, V
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.348 in	15-1000 psi	Water	UV, V
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.458 in	15-900 psi	Water	UV, V
6-8 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.551 in	15-600 psi	Water	UV, V
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.702 in	15-300 psi	Water	UV, V
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.741 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/04/2030

Design Type
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[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV

1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids) NBCert # 57248

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/04/2030

#### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800 NBCert # 57024

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/04/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV

1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800FP

NBCert #

57035

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

01/04/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.801 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition(1): Pop; (3): Initial Audible Discharge

Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name:	3800L, PCL, PCM pilots	NBCert #	57215
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 03/06/2030

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV



3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

Design Name:	6400/6600 (previously 2500 & 4600)	NBCert #	57046
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 06/14/2027

#### Design Type

[Safety Valve] 6400/6600 (previously 2500 & 4600)  
Capacity Tests: Sec. UV, V at Ohio State University (Robinson Laboratory) on January 28, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	V
1-1.5 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	V
1-1.5 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	V
1.5 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Steam	V
1.5-2 NPS	2.5 - 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.211 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Steam	V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.264 in	15-2900 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Steam	V
2-3 NPS	3 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.338 in	15-2900 psi	Steam	UV
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Air	UV
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Steam	V
2.5-3 NPS	4, 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.403 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Air	UV

3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Steam	V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.502 in	15-2900 psi	Steam	UV
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Air	UV
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Steam	V
3-4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.564 in	15-2900 psi	Steam	UV
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Air	UV
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Steam	V
3-4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.62 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Steam	V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.751 in	15-2900 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	0.988 in	15-2000 psi	Steam	UV
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Air	UV
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Steam	V
6 NPS	8 , 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.19 in	15-2000 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Steam	V
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.518 in	15-1500 psi	Steam	UV

## TVE Co., Ltd. (TOA)

Amagasaki-shi, Hyogo, 660-0054Japan

### This Company Manufactures or Assembles:

Design Name: A1700		NBCert # 01450	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		V	09/26/2029
Design Type			
[Safety Valve] A1700 Capacity Tests: Sec. UV, V at National Board Testing Lab on June 21, 2017 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.864 Unitless Media - Test: Steam; Certified: Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: TVE Co., Ltd. {TOA}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	2.0, 3.0 NPS	0.638 in <sup>2</sup>	0.9016 in	0.229 in	70-2872 psi	Steam	UV, V
1.25-1.5 NPS	2.0, 3.0 NPS	0.689 in <sup>2</sup>	0.9371 in	0.237 in	70-2872 psi	Steam	UV, V
1.25-1.5 NPS	2.0, 3.0 NPS	0.701 in <sup>2</sup>	0.9449 in	0.237 in	70-2872 psi	Steam	UV, V

1.5-2 NPS	2.5, 4.0 NPS	0.995 in <sup>2</sup>	1.126 in	0.284 in	70-3191 psi	Steam	UV, V
1.5-2 NPS	2.5, 4.0 NPS	1.095 in <sup>2</sup>	1.1812 in	0.296 in	70-3191 psi	Steam	UV, V
1.5-2 NPS	2.5, 4.0 NPS	1.188 in <sup>2</sup>	1.23 in	0.308 in	70-3191 psi	Steam	UV, V
2-2.5 NPS	3.0, 4.0 NPS	1.711 in <sup>2</sup>	1.4764 in	0.371 in	70-3191 psi	Steam	UV, V
2-2.5 NPS	3.0, 4.0 NPS	1.767 in <sup>2</sup>	1.5 in	0.378 in	70-3191 psi	Steam	UV, V
2-2.5 NPS	3.0, 4.0 NPS	1.957 in <sup>2</sup>	1.5788 in	0.398 in	70-3191 psi	Steam	UV, V
2.5-3 NPS	4.0-8.0 NPS	2.758 in <sup>2</sup>	1.8741 in	0.469 in	70-6223 psi	Steam	UV, V
2.5-3 NPS	4.0-8.0 NPS	2.899 in <sup>2</sup>	1.9213 in	0.481 in	70-6223 psi	Steam	UV, V
2.5-3 NPS	6.0, 8.0 NPS	3.031 in <sup>2</sup>	1.9646 in	0.493 in	727-6223 psi	Steam	UV, V
2.5-3 NPS	4.0-6.0 NPS	3.458 in <sup>2</sup>	2.0985 in	0.528 in	70-3191 psi	Steam	UV, V
3-3.5 NPS	5.0-8.0 NPS	3.858 in <sup>2</sup>	2.2166 in	0.556 in	70-6223 psi	Steam	UV, V
3-3.5 NPS	5.0-8.0 NPS	3.983 in <sup>2</sup>	2.252 in	0.563 in	70-6223 psi	Steam	UV, V
3-3.5 NPS	8.0 NPS	4.166 in <sup>2</sup>	2.3032 in	0.579 in	727-6223 psi	Steam	UV, V
3-3.5 NPS	5.0-8.0 NPS	4.382 in <sup>2</sup>	2.3623 in	0.591 in	70-6223 psi	Steam	UV, V
3-3.5 NPS	5.0-8.0 NPS	4.664 in <sup>2</sup>	2.4371 in	0.611 in	70-3191 psi	Steam	UV, V
3.5-4 NPS	6.0 NPS	5.415 in <sup>2</sup>	2.626 in	0.658 in	70-2234 psi	Steam	UV, V
3.5-4 NPS	6.0 NPS	5.546 in <sup>2</sup>	2.6575 in	0.666 in	70-2234 psi	Steam	UV, V
3.5-4 NPS	6.0 NPS	5.931 in <sup>2</sup>	2.7481 in	0.689 in	70-2234 psi	Steam	UV, V
4-5 NPS	6.0-8.0 NPS	6.847 in <sup>2</sup>	2.9528 in	0.741 in	70-1755 psi	Steam	UV, V
4-5 NPS	6.0-8.0 NPS	7.068 in <sup>2</sup>	3 in	0.752 in	70-1755 psi	Steam	UV, V
4-5 NPS	6.0-8.0 NPS	7.559 in <sup>2</sup>	3.1024 in	0.776 in	70-1755 psi	Steam	UV, V
4-5 NPS	6.0-8.0 NPS	8.145 in <sup>2</sup>	3.2205 in	0.808 in	70-1755 psi	Steam	UV, V
5-6 NPS	8.0-10.0 NPS	10.711 in <sup>2</sup>	3.693 in	0.926 in	70-1755 psi	Steam	UV, V
5-6 NPS	8.0-10.0 NPS	11.056 in <sup>2</sup>	3.752 in	0.941 in	70-1755 psi	Steam	UV, V
5-6 NPS	8.0-10.0 NPS	12.393 in <sup>2</sup>	3.9725 in	0.997 in	70-1755 psi	Steam	UV, V
6-8 NPS	10.0-12.0 NPS	15.407 in <sup>2</sup>	4.4292 in	1.111 in	70-1755 psi	Steam	UV, V
6-8 NPS	10.0-12.0 NPS	15.903 in <sup>2</sup>	4.5 in	1.126 in	70-1755 psi	Steam	UV, V
6-8 NPS	10.0-12.0 NPS	17.094 in <sup>2</sup>	4.6654 in	1.17 in	70-1755 psi	Steam	UV, V
6-8 NPS	10.0-12.0 NPS	19.295 in <sup>2</sup>	4.9567 in	1.241 in	70-1755 psi	Steam	UV, V
8-10 NPS	12.0, 14.0 NPS	27.39 in <sup>2</sup>	5.9056 in	1.477 in	70-320 psi	Steam	UV, V
8-10 NPS	12.0, 14.0 NPS	28.273 in <sup>2</sup>	6 in	1.5 in	70-320 psi	Steam	UV, V
8-10 NPS	12.0, 14.0 NPS	28.646 in <sup>2</sup>	6.0394 in	1.512 in	70-320 psi	Steam	UV, V

**TVI, Inc. (TRA)**

Nameplate Abbreviation: TVI

El Dorado, AR 71730United States

**This Company Manufactures or Assembles:**

Design Name: 2600 & 2600S	NBCert # 57057
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	07/25/2029
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#### Design Type

[Safety Relief Valve] 2600 & 2600S  
 Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.858 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Liquids)	NBCert # 57068
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	07/25/2029
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#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/25/2029

### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/25/2029

### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

## TVI, Inc. (TVC)

Calvert City, KY 42029United States

### This Company Manufactures or Assembles:

Design Name: 2600 & 2600S		NBCert # 57057
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/13/2026
Design Type		
[Safety Relief Valve] 2600 & 2600S Capacity Tests: Sec. UV at unknown lab on June 11, 1972 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV

3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name:	2600 Series Restricted Lift version of Cert Number 57057	NBCert #	57406
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/28/2029

### Design Type

[Safety Relief Valve] 2600 Series Restricted Lift version of Cert Number 57057  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 10, 2017  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.15 in <sup>2</sup>	[D] 0.437 in	0.08 in	15-10000 psi	Steam	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Air	UV
1-1.5 in	2, 2.5, 3 in	0.225 in <sup>2</sup>	[E] 0.535 in	0.08 in	15-10000 psi	Steam	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Air	UV
1.5 in	2, 2.5, 3 in	0.371 in <sup>2</sup>	[F] 0.687 in	0.08 in	15-10000 psi	Steam	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Air	UV
1.5-2 in	2.5, 3 in	0.559 in <sup>2</sup>	[G] 0.844 in	0.08 in	15-7000 psi	Steam	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Air	UV
1.5-2 in	3 in	0.873 in <sup>2</sup>	[H] 1.054 in	0.095 in	15-6000 psi	Steam	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Air	UV
2-3 in	3, 4 in	1.43 in <sup>2</sup>	[J] 1.35 in	0.122 in	15-6000 psi	Steam	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Air	UV
3 in	4, 6 in	2.042 in <sup>2</sup>	[K] 1.612 in	0.145 in	15-5000 psi	Steam	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Air	UV
3-4 in	4, 6 in	3.17 in <sup>2</sup>	[L] 2.009 in	0.181 in	15-4000 psi	Steam	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Air	UV
4 in	6 in	4 in <sup>2</sup>	[M] 2.257 in	0.203 in	15-3000 psi	Steam	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Air	UV
4 in	6 in	4.822 in <sup>2</sup>	[N] 2.478 in	0.223 in	15-3000 psi	Steam	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Air	UV
4 in	6 in	7.087 in <sup>2</sup>	[P] 3.004 in	0.27 in	15-2500 psi	Steam	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Air	UV
6 in	8 in	12.27 in <sup>2</sup>	[Q] 3.952 in	0.356 in	15-2000 psi	Steam	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Air	UV
6 in	8, 10 in	17.78 in <sup>2</sup>	[R] 4.758 in	0.428 in	15-1500 psi	Steam	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Air	UV
8 in	10 in	28.94 in <sup>2</sup>	[T] 6.07 in	0.546 in	15-1000 psi	Steam	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Air	UV
8 in	10 in	31.5 in <sup>2</sup>	[U] 6.333 in	0.57 in	15-300 psi	Steam	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Air	UV
10 in	14 in	49.4 in <sup>2</sup>	[V] 7.93 in	0.714 in	15-1000 psi	Steam	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Air	UV
12 in	16 in	63.62 in <sup>2</sup>	[W] 9 in	0.81 in	15-1000 psi	Steam	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Air	UV
16 in	18 in	104 in <sup>2</sup>	[W2] 11.507 in	1.036 in	15-750 psi	Steam	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Air	UV
16 in	20 in	113.1 in <sup>2</sup>	[X] 12 in	1.08 in	15-750 psi	Steam	UV
18 in	24 in	143.1 in <sup>2</sup>	[Y] 13.5 in	1.215 in	15-750 psi	Air	UV

18 in	24 in	143.1 in²	[Y] 13.5 in	1.215 in	15-750 psi	Steam	UV
20 in	24 in	176.7 in²	[Z] 15 in	1.35 in	15-750 psi	Air	UV
20 in	24 in	176.7 in²	[Z] 15 in	1.35 in	15-750 psi	Steam	UV
Design Name: 2600L (Air & Steam)				NBCert #	57260		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		04/29/2026		
Design Type							
[Safety Relief Valve] 2600L (Air & Steam) Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on March 5, 2004 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.858 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.131 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in²	[D] 0.437 in	0.131 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.16 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in²	[E] 0.535 in	0.16 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.206 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in²	[F] 0.687 in	0.206 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in²	[G] 0.844 in	0.295 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in²	[G] 0.844 in	0.295 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in²	[H] 1.054 in	0.369 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in²	[H] 1.054 in	0.369 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in²	[J] 1.35 in	0.473 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in²	[J] 1.35 in	0.473 in	15-6000 psi	Air	UV
3 NPS	4, 6 NPS	2.042 in²	[K] 1.612 in	0.564 in	15-2900 psi	Steam	UV
3 NPS	4, 6 NPS	2.042 in²	[K] 1.612 in	0.564 in	15-5000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in²	[L] 2.009 in	0.703 in	15-2900 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in²	[L] 2.009 in	0.703 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in²	[M] 2.257 in	0.79 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in²	[M] 2.257 in	0.79 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.867 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in²	[N] 2.478 in	0.867 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in²	[P] 3.004 in	1.05 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in²	[P] 3.004 in	1.05 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.383 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in²	[Q] 3.952 in	1.383 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.665 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	17.78 in²	[R] 4.758 in	1.665 in	15-1500 psi	Steam	UV

8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.125 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.217 in	15-300 psi	Steam	UV

Design Name:	2600L (Liquids)	NBCert #	57068
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	01/13/2026

### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/15/2029

## Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.878 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name: 2700L, 3700L (Liquids)

NBCert #

57248

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/17/2029

## Design Type

[Relief Valve] 2700L, 3700L (Liquids)

Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.676 Unitless

Media - Test: Liquid; Certified: Liquid

Set Pressure Definition: First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV

0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name:	4200 / 4400	NBCert #	57282
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	V	04/29/2026

Design Type
[Safety Valve] 4200 / 4400 Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.872 Unitless Media - Test: Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Dual Ring) Flow Area Configuration: Nozzle/Full Lift Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

<b>TVI, Inc. (TVI)</b>	Nameplate Abbreviation: TVI
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Memphis, TN 38108United States

#### This Company Manufactures or Assembles:

Design Name:	2600 & 2600S	NBCert #	57057
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/23/2029

## Design Type

[Safety Relief Valve] 2600 & 2600S

Capacity Tests: Sec. UV at unknown lab on June 11, 1972

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.858 Unitless

Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam

Set Pressure Definition: Pop

Blowdown Characteristics: Adjustable (Single Ring)

Flow Area Configuration: Nozzle/Full Lift

Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV

12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Liquids) NBCert # 57068

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 11/02/2029

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/23/2029

### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	04/28/2026

### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 4200 / 4400	NBCert # 57282
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	V	03/23/2029
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#### Design Type

[Safety Valve] 4200 / 4400  
Capacity Tests: Sec. UV, V at National Board Testing Lab on June 9, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.872 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.316 in <sup>2</sup>	[F] 0.634 in	0.159 in	15-1480 psi	Steam	UV, V
1.25 NPS	1.5 NPS	0.518 in <sup>2</sup>	[G] 0.812 in	0.203 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	0.809 in <sup>2</sup>	[H] 1.015 in	0.254 in	15-1480 psi	Steam	UV, V
1.5 NPS	2.5 NPS	1.325 in <sup>2</sup>	[J] 1.299 in	0.325 in	15-1480 psi	Steam	UV, V
2 NPS	3 NPS	1.897 in <sup>2</sup>	[K] 1.554 in	0.389 in	15-1480 psi	Steam	UV, V
2.5 NPS	4 NPS	2.938 in <sup>2</sup>	[L] 1.934 in	0.484 in	15-1480 psi	Steam	UV, V
3 NPS	4 NPS	3.822 in <sup>2</sup>	[M] 2.206 in	0.552 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	4.471 in <sup>2</sup>	[N] 2.386 in	0.597 in	15-1480 psi	Steam	UV, V
4 NPS	6 NPS	6.573 in <sup>2</sup>	[P] 2.893 in	0.723 in	15-1480 psi	Steam	UV, V
6 NPS	8 NPS	11.389 in <sup>2</sup>	[Q] 3.808 in	0.952 in	15-1480 psi	Steam	UV, V

**V TEX Corporation (VTX)**

Nameplate Abbreviation: V TEX

Hitachinaka, Ibaraki, 312-0003Japan

**This Company Manufactures or Assembles:**

Design Name:	FB Series	NBCert #	00471
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	12/02/2026

### Design Type

[Rupture Disk Device] FB Series  
HolderDesignation: FBF, FBS  
Capacity Tests: Sec. UD at National Board Testing Lab on June 10, 2014  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 1.000 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: V TEX Corporation {VTX}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.773 in <sup>2</sup>			49-1450 psi	Air	UD
1.5 NPS	1.5 NPS	1.87 in <sup>2</sup>			35-1160 psi	Air	UD
10 NPS	10 NPS	78.5 in <sup>2</sup>			15-435 psi	Air	UD
12 NPS	12 NPS	111 in <sup>2</sup>			12-290 psi	Air	UD
14 NPS	14 NPS	137 in <sup>2</sup>			12-290 psi	Air	UD
16 NPS	16 NPS	182 in <sup>2</sup>			12-290 psi	Air	UD
18 NPS	18 NPS	233 in <sup>2</sup>			12-290 psi	Air	UD
2 NPS	2.0 NPS	3.35 in <sup>2</sup>			28-1160 psi	Air	UD
20 NPS	20 NPS	291 in <sup>2</sup>			12-290 psi	Air	UD
24 NPS	24 NPS	424 in <sup>2</sup>			10-145 psi	Air	UD
26 NPS	26 NPS	499 in <sup>2</sup>			10-145 psi	Air	UD
28 NPS	28 NPS	580 in <sup>2</sup>			10-145 psi	Air	UD
3 NPS	3 NPS	7.39 in <sup>2</sup>			25-1015 psi	Air	UD
30 NPS	30 NPS	667 in <sup>2</sup>			10-145 psi	Air	UD
32 NPS	32 NPS	760 in <sup>2</sup>			10-145 psi	Air	UD
34 NPS	34 NPS	851 in <sup>2</sup>			10-145 psi	Air	UD
36 NPS	36 NPS	956 in <sup>2</sup>			10-145 psi	Air	UD
4 NPS	4 NPS	12.7 in <sup>2</sup>			22-1015 psi	Air	UD
6 NPS	6 NPS	28.8 in <sup>2</sup>			20-800 psi	Air	UD
8 NPS	8 NPS	50 in <sup>2</sup>			15-580 psi	Air	UD

Design Name:	FMB Series	NBCert #	01584
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	01/26/2030

Design Type

[Rupture Disk Device] FMB Series  
HolderDesignation: FMBS, FMBF  
Capacity Tests: Sec. UD at National Board Testing Lab on August 24, 2017  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.900 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: V TEX Corporation {VTX}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.821 in²			79-2030 psi	Air	UD
1.5 NPS		1.94 in²			60-2030 psi	Air	UD
10 NPS		78.8 in²			26-435 psi	Air	UD
12 NPS		113 in²			22-290 psi	Air	UD
14 NPS		137 in²			26-290 psi	Air	UD
16 NPS		182 in²			22-290 psi	Air	UD
18 NPS		233 in²			18-290 psi	Air	UD
2 NPS		3.35 in²			55-2030 psi	Air	UD
20 NPS		291 in²			15-290 psi	Air	UD
3 NPS		7.39 in²			45-1885 psi	Air	UD
3 NPS		8.89 in²			45-1885 psi	Air	UD
4 NPS		12.7 in²			40-1450 psi	Air	UD
6 NPS		28.8 in²			30-800 psi	Air	UD
8 NPS		50 in²			35-580 psi	Air	UD

Valve & Actuation Services, LLC (CHK)Nameplate Abbreviation: Chalmers & Kubeck - South

Gastonia, NC 28054United States

This Company Manufactures or Assembles:

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
Manufacturer/Assembler		Designators	Expiration Date
Assembler		UV, V	05/02/2030

Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in²	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V

1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 19000 Series, Liquid

NBCert #

18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/02/2030

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV

1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 05/02/2030

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/21/2030

#### Design Type

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV

3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name:	1900-DM-D	NBCert #	19088
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/20/2030

#### Design Type

[Safety Relief Valve] 1900-DM-D  
Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name:	1900-DM-E	NBCert #	19099
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 02/20/2030

**Design Type**

[Safety Relief Valve] 1900-DM-E  
Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids) NBCert # 18762

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV, V

05/02/2030

**Design Type**

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name: 19110M & 19110H (Liquids) NBCert # 19077

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

06/12/2030

**Design Type**

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	1982 LS, 820000LS	NBCert #	18380
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/02/2030

### Design Type

[Relief Valve] 1982 LS, 820000LS  
Capacity Tests: Sec. UV at Dresser, Inc. on December 19, 1984  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.758 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	NV
0.5-0.75 NPS	.75 - 1 NPS	0.121 in <sup>2</sup>	0.393 in	0.137 in	15-500 psi	Water	UV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	NV
0.75-1 NPS	1 , 1.5 NPS	0.216 in <sup>2</sup>	0.524 in	0.162 in	15-500 psi	Water	UV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	NV
1-1.25 NPS	1.5 NPS	0.332 in <sup>2</sup>	0.65 in	0.236 in	15-500 psi	Water	UV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	NV
1.5-2 NPS	2, 2.5 NPS	0.857 in <sup>2</sup>	1.045 in	0.343 in	15-500 psi	Water	UV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	NV
2 NPS	2.5 NPS	1.399 in <sup>2</sup>	1.335 in	0.43 in	15-500 psi	Water	UV

Design Name:	3900 (39PV, 39MV pilots, liquid)	NBCert #	18458
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	02/21/2030

### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.743 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV



1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Valve & Actuation Services, LLC (VAS)

Nameplate Abbreviation: C&K - Mobile

Theodore, AL 36582United States

### This Company Manufactures or Assembles:

Design Name: 1541, 1543, 1541-3, 1543-3

NBCert # 18032

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	10/13/2028

## Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1811, 1511

NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	10/13/2028

## Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30 1900-35 LA & DALA  
(Liquids)

NBCert # 18784

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	10/13/2028

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V

1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/13/2028

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV

3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series NBCert # 18706

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/13/2028

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV

0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/09/2029

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV

0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/13/2028

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 10/13/2028

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name:	1900-DM	NBCert #	19066
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/13/2028

## Design Type

[Safety Relief Valve] 1900-DM

Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010

Method of Establishing Relieving Capacity: Flow Capacity, K

Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV



Design Name:	1900E-2, 1900-30E-2	NBCert #	18166
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/13/2028

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name:	1900E-2, 1900-30E-2 LA & DALA (Liquids)	NBCert #	18762
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	10/13/2028

#### Design Type

[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	3900-TM (39PV, 39MV pilots)	NBCert #	01438
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/09/2029

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900-TM (39PV, 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; (alternate medium): 0.743 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid, Steam; Certified: Air, Gas, Liquid, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge; (3): First Steady Stream  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Air	UV

1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Air	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-15000 psi	Water	UV
1-1.8125 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-15000 psi	Water	UV
1.5-2.0625 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.07 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-15000 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV

4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
10 NPS	14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

## Valve & Actuation Services, LLC d/b/a Chalmers & Kubeck - South (KSC)

Cayce, SC 29033United States

### This Company Manufactures or Assembles:

Design Name: 1541, 1543, 1541-3, 1543-3		NBCert # 18032
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	12/14/2028
Design Type		

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name:	1811, 1511	NBCert #	18122
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV, V	12/15/2028
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#### Design Type

[Safety Valve] 1811, 1511  
 Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.877 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V

1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/15/2028

#### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V

6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35 NBCert # 18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/15/2028

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV

6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name:	19000 Series	NBCert #	18706
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	12/15/2028
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#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV

1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid

NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/15/2028

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV



Design Name:	1900D-2, 1900-30D-2	NBCert #	18144
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/06/2028

#### Design Type

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name:	1900D-2, 1900-30D-2 LA & DALA (Liquids)	NBCert #	18751
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	10/25/2028

#### Design Type

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name:	1900E-2, 1900-30E-2	NBCert #	18166
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/06/2028

#### Design Type

[Safety Relief Valve] 1900E-2, 1900-30E-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV

1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV
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Design Name:	1900E-2, 1900-30E-2 LA & DALA (Liquids)	NBCert #	18762
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 10/25/2028

Design Type
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[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.798 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V

Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/22/2028

Design Type
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[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	2900 (39PV & 39MV pilots)	NBCert #	18863
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 09/08/2028

Design Type
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[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots)		NBCert # 18447
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/06/2028

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - ; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV

4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

## Valve & Actuation Services, LLC. d/b/a Chalmers & Kubeck - South (CKS)

Nameplate Abbreviation: Chalmers & Kubeck South

Watkinsville, GA 30677United States

### This Company Manufactures or Assembles:

Design Name:	1541, 1543, 1541-3, 1543-3	NBCert #	18032
Manufacturer/Assembler	Designators	Expiration Date	
Assembler	UV, V	06/14/2027	

## Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
 Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1811, 1511

NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/15/2027

## Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV

Design Name: 1900, 1900-30 1900-35 LA & DALA  
(Liquids)

NBCert # 18784

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/16/2027

## Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V

1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name: 1900, 1900-30, 1900-35

NBCert #

18201

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/12/2027

#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV



3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name: 19000 Series NBCert # 18706

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/16/2027

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV

0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name:	19000 Series, Liquid	NBCert #	18717
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/14/2027

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV

0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name:	19110M & 19110H (Liquids)	NBCert #	19077
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 01/28/2027

#### Design Type

[Relief Valve] 19110M & 19110H (Liquids)  
Capacity Tests: Sec. NV, -Class 1, -Class 2, -Class 3, UV at Dresser, Inc. on July 29, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.264 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-5000 psi	Water	NV, -Class 2, -Class 3
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	50-440 psi	Water	NV, -Class 1

Design Name:	3900 (39PV, 39MV pilots)	NBCert #	18447
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 01/28/2027

#### Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV

1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV

6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

## Valve Sales Inc (VAE)

Tulsa, OK 74107United States

### This Company Manufactures or Assembles:

Design Name: 1541, 1543, 1541-3, 1543-3 NBCert # 18032

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	09/01/2029

### Design Type

[Safety Valve] 1541, 1543, 1541-3, 1543-3  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-250 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D] 0.375 in	0.094 in	15-300 psi	Air	NV, UV
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Steam	NV, UV, V
0.5-0.75 NPS	.75 NPS	0.11 in <sup>2</sup>	[D3] 0.393 in	0.094 in	15-350 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-250 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E] 0.5 in	0.125 in	15-300 psi	Air	NV, UV
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-300 psi	Steam	NV, UV, V
0.75-1 NPS	1 NPS	0.196 in <sup>2</sup>	[E3] 0.524 in	0.125 in	15-350 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-250 psi	Steam	NV, UV, V

1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-300 psi	Air	NV, UV
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-300 psi	Steam	NV, UV, V
1-1.25 NPS	1.25 NPS	0.307 in <sup>2</sup>	[F3] 0.65 in	0.156 in	15-350 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-250 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-300 psi	Air	NV, UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-300 psi	Steam	NV, UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G3] 0.835 in	0.2 in	15-350 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-250 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-300 psi	Air	NV, UV
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-300 psi	Steam	NV, UV, V
1.5-2 NPS	2 NPS	0.785 in <sup>2</sup>	[H3] 1.045 in	0.25 in	15-350 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-250 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.32 in	15-300 psi	Air	NV, UV
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-300 psi	Steam	NV, UV, V
2-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J3] 1.335 in	0.32 in	15-350 psi	Air	NV, UV

Design Name: 1700 & 2700 NBCert # 18100

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 03/22/2029

#### Design Type

[Safety Valve] 1700 & 2700  
Capacity Tests: Sec. UV, V at Dresser, Inc. on August 1, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[#9] 0.75 in	0.188 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[#1] 1.125 in	0.281 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3 - 6 NPS	1.431 in <sup>2</sup>	[#2] 1.35 in	0.338 in	50-5800 psi	Steam	V
4 NPS	4 dual NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[#3] 1.8 in	0.45 in	50-5800 psi	Steam	UV, V
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-2575 psi	Steam	UV
2.5-2.5 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[#5] 2.062 in	0.516 in	50-5800 psi	Steam	V
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	15-3100 psi	Steam	UV
3-3 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[#4] 2.25 in	0.563 in	50-5800 psi	Steam	V

4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	15-3100 psi	Steam	UV
4 NPS	6,8 NPS	7.07 in <sup>2</sup>	[#6] 3 in	0.75 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-2093 psi	Steam	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.948 in	0.987 in	15-2000 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	15-1800 psi	Steam	UV
6 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[#8] 4.25 in	1.063 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	1.129 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	1.24 in	50-2200 psi	Steam	UV, V
8-10 NPS	10,12 NPS	28.3 in <sup>2</sup>	[T] 6 in	1.5 in	50-1500 psi	Steam	UV, V

Design Name: 1700 & 2700 (Restricted Lift version of Cert. # 18100) NBCert # 18111

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 12/21/2028

#### Design Type

[Safety Valve] 1700 & 2700 (Restricted Lift version of Cert. # 18100)  
Capacity Tests: Sec. UV, V at unknown lab on October 13, 1981  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless; Certification Provisions: Restricted Lift (Prev. CC 1923 &/or 1945)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	15-3000 psi	Steam	UV
1-1.5 NPS	3 NPS	0.442 in <sup>2</sup>	[9] 0.75 in	0.08 in	50-3000 psi	Steam	V
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	15-3100 psi	Steam	UV
1.25-2.5 NPS	3, 4 NPS	0.994 in <sup>2</sup>	[1] 1.125 in	0.084 in	50-5800 psi	Steam	V
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	15-3100 psi	Steam	UV
1.5-2.5 NPS	3-6 NPS	1.431 in <sup>2</sup>	[2] 1.35 in	0.101 in	50-5800 psi	Steam	V
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	15-3100 psi	Steam	UV
2-3 NPS	6 NPS	2.545 in <sup>2</sup>	[3] 1.8 in	0.135 in	50-5800 psi	Steam	V
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	15-2575 psi	Steam	UV
2.5-3 NPS	6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.143 in	50-2575 psi	Steam	V
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	15-3100 psi	Steam	UV
2.5-3 NPS	6, 8 NPS	3.341 in <sup>2</sup>	[5] 2.062 in	0.155 in	50-5800 psi	Steam	V
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	15-3100 psi	Steam	UV
3-4 NPS	6, 8 NPS	3.976 in <sup>2</sup>	[4] 2.25 in	0.169 in	50-5800 psi	Steam	V
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	15-3100 psi	Steam	UV
4 NPS	6, 8 NPS	7.07 in <sup>2</sup>	[6] 3 in	0.225 in	50-3100 psi	Steam	V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	15-2093 psi	Steam	UV

6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.281 in	50-2093 psi	Steam	V
6 NPS	8 NPS	12.25 in <sup>2</sup>	[Q] 3.946 in	0.296 in	15-2000 psi	Steam	UV, V
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	14.18 in <sup>2</sup>	[8] 4.25 in	0.319 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	15-1800 psi	Steam	UV
6-8 NPS	8, 10 NPS	16 in <sup>2</sup>	[R] 4.515 in	0.339 in	50-2000 psi	Steam	V
6-8 NPS	8, 10 NPS	19.29 in <sup>2</sup>	[RR] 4.956 in	0.372 in	50-2200 psi	Steam	V
8-10 NPS	10, 12 NPS	28.3 in <sup>2</sup>	[T] 6 in	0.45 in	50-1500 psi	Steam	UV, V

Design Name: 1811, 1511 NBCert # 18122

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	12/22/2028

### Design Type

[Safety Valve] 1811, 1511  
Capacity Tests: Sec. UV, V at Dresser, Inc. on March 11, 1975  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.877 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1500 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1500 psi	Air	UV
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Steam	UV, V
1.5-2.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.281 in	0.321 in	15-1500 psi	Air	UV
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Steam	UV, V
2-3 NPS	3, 4 NPS	1.84 in <sup>2</sup>	[K] 1.531 in	0.383 in	15-1500 psi	Air	UV
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Steam	UV, V
2.5-4 NPS	4, 6 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1500 psi	Air	UV
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Steam	UV, V
3-4 NPS	4, 6 NPS	3.6 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1500 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.351 in	0.588 in	15-1500 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Steam	UV, V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-1500 psi	Air	UV
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Steam	UV, V
6 NPS	8 NPS	11.05 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-1500 psi	Air	UV



Design Name:	1900, 1900-30 1900-35 LA & DALA (Liquids)	NBCert #	18784
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	12/12/2028

### Design Type

[Relief Valve] 1900, 1900-30 1900-35 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.670 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.128 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	NV, UV, V
1-1.5 NPS	2 - 3 NPS	0.228 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-7500 psi	Water	NV, UV, V
1.5-1.5 NPS	2 - 3 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	NV, UV, V
1.5-2 NPS	2.5, 3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6000 psi	Water	NV, UV, V
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-3300 psi	Water	NV, UV, V
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-3100 psi	Water	NV, UV, V
3-3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3400 psi	Water	NV, UV, V
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	NV, UV, V
4-4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	NV, UV, V
4-4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	NV, UV, V
6-6 NPS	8 NPS	12.851 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	NV, UV, V
6-6 NPS	8, 10 NPS	18.604 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	NV, UV, V
8-8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	2.212 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	30.21 in <sup>2</sup>	[T-4] 6.205 in	2.272 in	15-360 psi	Water	NV, UV, V
8-8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.272 in	15-300 psi	Water	NV, UV, V
10-10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	NV, UV, V
12-12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	NV, UV, V

Design Name:	1900, 1900-30, 1900-35	NBCert #	18201
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/12/2028

### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on October 11, 1954  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.4035 in	0.11 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-2000 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-2000 psi	Steam	NV, UV
1.5 NPS	2-3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	2-1/2, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2540 psi	Steam	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-3100 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-3400 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	1.68 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Air	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	1.723 in	15-300 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.162 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Air	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	NV, UV

Design Name:	1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)	NBCert #	18223
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	03/22/2029
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#### Design Type

[Safety Relief Valve] 1900, 1900-30, 1900-35 (R.L.) (Restricted lift version of 18201)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 19, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; Certification Provisions: Restricted Lift (Prev. CC N-394 or 1945)  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Restricted Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.08 in	15-6250 psi	Steam	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Air	NV, UV
1-1.5 NPS	2, 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Air	NV, UV
1.5 NPS	2, 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.08 in	15-6250 psi	Steam	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-6000 psi	Air	NV, UV
1.5-2 NPS	2.5, 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.08 in	15-4230 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-2540 psi	Steam	NV, UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.087 in	15-3300 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-3100 psi	Air	NV, UV
2-3 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.112 in	15-2540 psi	Steam	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-3400 psi	Air	NV, UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.134 in	15-2540 psi	Steam	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Air	NV, UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.167 in	15-2900 psi	Steam	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.187 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Air	NV, UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.205 in	15-1600 psi	Steam	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Air	NV, UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.249 in	15-1700 psi	Steam	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Air	NV, UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	0.327 in	15-900 psi	Steam	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Air	NV, UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	0.387 in	15-650 psi	Steam	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	28.624 in <sup>2</sup>	[T] 6.04 in	0.504 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Air	NV, UV

8 NPS	10 NPS	30.21 in <sup>2</sup>	[T4] 6.205 in	0.517 in	15-360 psi	Steam	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-360 psi	Air	NV, UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	0.552 in	15-300 psi	Steam	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Air	NV, UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	0.648 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Steam	NV, UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	0.757 in	15-300 psi	Air	NV, UV

Design Name:	19000 Series	NBCert #	18706
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/12/2028

#### Design Type

[Safety Relief Valve] 19000 Series  
Capacity Tests: Sec. UV at Dresser, Inc. on August 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.039 in	15-1500 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Steam	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Air	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-2903 psi	Steam	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-1500 psi	Steam	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-5000 psi	Air	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-2000 psi	Steam	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Air	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-2000 psi	Steam	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Air	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Steam	NV

2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Air	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Steam	NV

Design Name: 19000 Series, Liquid NBCert # 18717

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/12/2028

#### Design Type

[Relief Valve] 19000 Series, Liquid  
Capacity Tests: Sec. NV, -Class 2, -Class 3, UV at Dresser, Inc. on August 30, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.673 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	UV
0.5-1 NPS	1 NPS	0.019 in <sup>2</sup>	0.156 in	0.045 in	15-15000 psi	Water	NV
0.5-1 NPS	1 NPS	0.049 in <sup>2</sup>	0.25 in	0.079 in	200-6250 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	UV
0.5-1 NPS	1 NPS	0.096 in <sup>2</sup>	0.35 in	0.11 in	15-5000 psi	Water	NV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	UV
0.5-1 NPS	1 NPS	0.11 in <sup>2</sup>	0.375 in	0.118 in	15-290 psi	Water	NV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	UV
0.75-1 NPS	1 NPS	0.126 in <sup>2</sup>	0.401 in	0.126 in	15-8000 psi	Water	NV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	UV
1-1 NPS	1.5 NPS	0.226 in <sup>2</sup>	0.537 in	0.169 in	15-6400 psi	Water	NV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	UV
1.5-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	0.675 in	0.212 in	15-1500 psi	Water	NV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	UV
2-2 NPS	2.5 NPS	0.567 in <sup>2</sup>	0.85 in	0.266 in	15-1000 psi	Water	NV

Design Name: 1900D-2, 1900-30D-2 NBCert # 18144

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/12/2028

**Design Type**

[Safety Relief Valve] 1900D-2, 1900-30D-2  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 5.630 PPH/PSIA; (alternate medium): 2.004 SCFM/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.066 in	15-6250 psi	Air	UV

Design Name: 1900D-2, 1900-30D-2 LA & DALA (Liquids) NBCert # 18751

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

12/12/2028

**Design Type**

[Relief Valve] 1900D-2, 1900-30D-2 LA & DALA (Liquids)  
Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.256 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.056 in	15-6250 psi	Water	NV, UV, V

Design Name: 1900-DM NBCert # 19066

**Manufacturer/Assembler****Designators****Expiration Date**

Assembler

UV

03/22/2029

**Design Type**

[Safety Relief Valve] 1900-DM  
Capacity Tests: Sec. UV at Dresser, Inc. on March 15, 2010  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.855 Unitless; (alternate medium): 0.670 Unitless; Certification Provisions: Multiple Media (Code Case 2787)  
Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Air	UV
1.5-1.8125 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-10000 psi	Water	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	2 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-10000 psi	Water	UV

1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Air	UV
1.5-2.0625 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Water	UV
2-3.0625 NPS	3, 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-10000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Air	UV
3 NPS	4, 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-3000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Air	UV
3-4 NPS	4, 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-2900 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	0.846 in	15-1600 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-1600 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-1700 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-900 psi	Water	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Air	UV
6 NPS	8, 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.782 in	15-650 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-408 psi	Water	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	2.428 in	15-360 psi	Water	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8 in	2.93 in	15-300 psi	Water	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Air	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-300 psi	Water	UV

Design Name: 1900-DM-D

NBCert #

19088

Manufacturer/Assembler	Designators	Expiration Date
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Assembler

UV

03/22/2029

#### Design Type

[Safety Relief Valve] 1900-DM-D

Capacity Tests: Sec. UV at National Board Testing Lab on March 18, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 1.991 SCFM/PSIA; (alternate medium): 3.256 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787)

Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid

Set Pressure Definition(1): Pop; (2): First Steady Stream

Blowdown Characteristics: Fixed

Flow Area Configuration: Curtain Area

Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Water	UV
1-1.8125 NPS	2-3 NPS	0.1279 in <sup>2</sup>	[D] 0.674 in	0.067 in	15-10000 psi	Air	UV

Design Name: 1900-DM-E		NBCert # 19099
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	03/22/2029
<b>Design Type</b>		
[Safety Relief Valve] 1900-DM-E Capacity Tests: Sec. UV at National Board Testing Lab on March 10, 2010 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 3.558 SCFM/PSIA; (alternate medium): 5.798 GPM/SQ.RT. PSID; Certification Provisions: Multiple Media (Code Case 2787) Media - Test: Air/Gas, Liquid; Certified: Air, Gas, Liquid Set Pressure Definition(1): Pop; (2): First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Air	UV
1-1.8125 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.105 in	15-10000 psi	Water	UV

Design Name: 1900E-2, 1900-30E-2		NBCert # 18166
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/12/2028
<b>Design Type</b>		
[Safety Relief Valve] 1900E-2, 1900-30E-2 Capacity Tests: Sec. NV, UV at Dresser, Inc. on August 16, 1977 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 10.040 PPH/PSIA; (alternate medium): 3.570 SCFM/PSIA Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-4230 psi	Steam	NV, UV
1-1.5 NPS	2-3 NPS	0.2279 in <sup>2</sup>	[E] 0.674 in	0.119 in	15-6250 psi	Air	NV, UV

Design Name: 1900E-2, 1900-30E-2 LA & DALA (Liquids)		NBCert # 18762
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/12/2028
<b>Design Type</b>		
[Relief Valve] 1900E-2, 1900-30E-2 LA & DALA (Liquids) Capacity Tests: Sec. NV, UV, V at Dresser, Inc. on July 12, 1995 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 5.798 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: Dresser, LLC {DRJ}		



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.2279 in²	[E] 0.674 in	0.093 in	15-6250 psi	Water	NV, UV, V
Design Name: 2900 (39PV & 39MV pilots - Liquid)				NBCert #	18874		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		03/22/2029		
Design Type							
[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots - Liquid) Capacity Tests: Sec. UV, V at Dresser, Inc. on June 25, 1999 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.670 Unitless Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: Dresser, LLC {DRJ}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.095 in	15-6250 psi	Water	UV, V
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.127 in	15-6250 psi	Water	UV, V
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.16 in	15-6250 psi	Water	UV, V
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.205 in	15-6250 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.395 in	15-6250 psi	Water	UV, V
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.506 in	15-6000 psi	Water	UV, V
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.605 in	15-6000 psi	Water	UV, V
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.753 in	15-3750 psi	Water	UV, V
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.846 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.929 in	15-2250 psi	Water	UV, V
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1.126 in	15-2250 psi	Water	UV, V
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.482 in	15-1500 psi	Water	UV, V
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.738 in	15-1500 psi	Water	UV, V
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2.272 in	15-905 psi	Water	UV, V
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Water	UV, V
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.93 in	15-675 psi	Water	UV, V
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	3.675 in	15-535 psi	Water	UV, V

Design Name: 2900 (39PV & 39MV pilots)				NBCert #	18863		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		03/22/2029		

## Design Type

[Pilot Operated Pressure Relief Valve] 2900 (39PV & 39MV pilots)  
 Capacity Tests: Sec. UV at Dresser, Inc. on June 25, 1999  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.855 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
 Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.1279 in <sup>2</sup>	[D] 0.4036 in	0.11 in	15-7200 psi	Air	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-4230 psi	Steam	UV
1-1.5 NPS	2 - 3 NPS	0.2279 in <sup>2</sup>	[E] 0.5387 in	0.147 in	15-6250 psi	Air	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-4230 psi	Steam	UV
1.5 NPS	2 - 3 NPS	0.3568 in <sup>2</sup>	[F] 0.674 in	0.182 in	15-7200 psi	Air	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-4230 psi	Steam	UV
1.5-2 NPS	2.5 - 3 NPS	0.5849 in <sup>2</sup>	[G] 0.863 in	0.234 in	15-6000 psi	Air	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-2500 psi	Steam	UV
1.5-2 NPS	3 NPS	0.9127 in <sup>2</sup>	[H] 1.078 in	0.292 in	15-3750 psi	Air	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-2500 psi	Steam	UV
2-3 NPS	3 - 4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.374 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-2600 psi	Steam	UV
3 NPS	4 - 6 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.446 in	15-6000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-3750 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.556 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-2250 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.3086 in	0.625 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-2250 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	0.685 in	15-1600 psi	Steam	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-2250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	0.83 in	15-1700 psi	Steam	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.09 in	15-900 psi	Steam	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-1500 psi	Air	UV
6 NPS	8 - 10 NPS	18.6 in <sup>2</sup>	[R] 4.867 in	1.29 in	15-905 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	1.723 in	15-905 psi	Steam	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Air	UV
8 NPS	10 NPS	35 in <sup>2</sup>	[U] 6.688 in	1.841 in	15-905 psi	Steam	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-675 psi	Air	UV
10 NPS	14 NPS	50.26 in <sup>2</sup>	[V] 8.002 in	2.162 in	15-300 psi	Steam	UV
12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-535 psi	Air	UV

12 NPS	16 NPS	78.996 in <sup>2</sup>	[W] 10.029 in	2.523 in	15-300 psi	Steam	UV
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Design Name:	3900 (39PV, 39MV pilots)	NBCert #	18447
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	12/12/2028
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Design Type
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[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots)  
Capacity Tests: Sec. NV, UV at Dresser, Inc. on May 19, 1988  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (2): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-2150 psi	Steam	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Air	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-750 psi	Steam	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-2150 psi	Steam	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Air	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-750 psi	Steam	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-2150 psi	Steam	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Air	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-750 psi	Steam	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-2150 psi	Steam	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Air	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-750 psi	Steam	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-2150 psi	Steam	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Air	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-750 psi	Steam	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-2150 psi	Steam	UV

4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-2150 psi	Steam	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-6250 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Air	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-750 psi	Steam	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-2150 psi	Steam	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-750 psi	Steam	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Steam	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Air	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Steam	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Air	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Steam	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Air	UV
8 NPS	10, 12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-750 psi	Steam	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Steam	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Air	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Steam	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Air	UV
12 NPS	16 NPS	99.51 in <sup>2</sup>	11.256 in	4.88 in	15-750 psi	Steam	UV

Design Name: 3900 (39PV, 39MV pilots, liquid)			NBCert # 18458	
Manufacturer/Assembler		Designators	Expiration Date	
Assembler		UV	12/12/2028	

## Design Type

[Pilot Operated Pressure Relief Valve] 3900 (39PV, 39MV pilots, liquid)  
 Capacity Tests: Sec. NV, UV at Dresser, Inc. on June 1, 1988  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.743 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Dresser, LLC {DRJ}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.128 in <sup>2</sup>	[D] 0.404 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.228 in <sup>2</sup>	[E] 0.539 in	0.25 in	15-6250 psi	Water	UV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	NV
1-1.5 NPS	2 NPS	0.357 in <sup>2</sup>	[F] 0.674 in	0.25 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.585 in <sup>2</sup>	[G] 0.863 in	0.5 in	15-6250 psi	Water	UV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	NV
1.5-2 NPS	3 NPS	0.913 in <sup>2</sup>	[H] 1.078 in	0.5 in	15-6250 psi	Water	UV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	NV
2-3 NPS	3-4 NPS	1.496 in <sup>2</sup>	[J] 1.38 in	0.5 in	15-6250 psi	Water	UV
1.5 NPS	2 NPS	1.621 in <sup>2</sup>	1.437 in	0.25 in	15-6250 psi	Water	UV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	NV
3 NPS	4 NPS	2.138 in <sup>2</sup>	[K] 1.65 in	0.68 in	15-6250 psi	Water	UV
2 NPS	3 NPS	2.764 in <sup>2</sup>	1.876 in	0.5 in	15-6250 psi	Water	UV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	NV
3-4 NPS	4-6 NPS	3.317 in <sup>2</sup>	[L] 2.055 in	0.68 in	15-6250 psi	Water	UV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	4.186 in <sup>2</sup>	[M] 2.309 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	5.047 in <sup>2</sup>	[N] 2.535 in	1 in	15-3750 psi	Water	UV
3 NPS	4 NPS	6.321 in <sup>2</sup>	2.837 in	0.68 in	15-3750 psi	Water	UV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	NV
4 NPS	6 NPS	7.417 in <sup>2</sup>	[P] 3.073 in	1 in	15-3750 psi	Water	UV
4 NPS	6 NPS	10.76 in <sup>2</sup>	3.701 in	1 in	15-3750 psi	Water	UV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	12.85 in <sup>2</sup>	[Q] 4.045 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	NV
6 NPS	8 NPS	18.6 in <sup>2</sup>	[R] 4.866 in	1.31 in	15-1500 psi	Water	UV
6 NPS	8, 10 NPS	24.95 in <sup>2</sup>	5.636 in	1.31 in	15-1500 psi	Water	UV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	NV
8 NPS	10 NPS	30.21 in <sup>2</sup>	[T] 6.205 in	2 in	15-1500 psi	Water	UV

8 NPS	10-12 NPS	44.18 in <sup>2</sup>	7.5 in	2 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	NV
10 NPS	10-14 NPS	63.62 in <sup>2</sup>	[W] 9 in	3 in	15-1500 psi	Water	UV
10 NPS	10-14 NPS	69.94 in <sup>2</sup>	9.437 in	3 in	15-1500 psi	Water	UV

ValvTechnologies, LLC (VLC)

Nameplate Abbreviation:  
ValvTechnologies

Houston, TX 77092United States

This Company Manufactures or Assembles:

Design Name: EOL121NRA*P1-MK1H		NBCert # 59082	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		V	08/01/2025
Design Type			
[Power Actuated Relief Valve] EOL121NRA*P1-MK1H Capacity Tests: Sec. V at National Board Testing Lab on December 4, 2002 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:109.20 PPH/PSIA Media - Test: Steam; Certified: Steam Set Pressure Definition: Power Actuated Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: ValvTechnologies, LLC {VLC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5 NPS	4 NPS	2.48 in <sup>2</sup>	1.777 in		55-5000 psi	Steam	V

Design Name: ERV 3 1/16" Bore		NBCert # 59037	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		V	06/09/2030
Design Type			
[Power Actuated Relief Valve] ERV 3 1/16" Bore Capacity Tests: Sec. V at National Board Testing Lab on June 9, 1997 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value:312.20 PPH/PSIA Media - Test: Steam; Certified: Steam Set Pressure Definition: Power Actuated Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: ValvTechnologies, LLC {VLC}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
3 NPS	3, 8 NPS	7.366 in <sup>2</sup>	3.063 in		15-1440 psi	Steam	V

Design Name: Z***-05*****_*****_***		NBCert # 59059	
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		V	02/23/2030

**Design Type**

[Power Actuated Relief Valve] Z\*\*\*-05\*\*\*\*\*\_\*\*\*\*\*\_\*\*\*

Capacity Tests: Sec. V at National Board Testing Lab on February 27, 2018

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 11.000 PPH/PSIA

Media - Test: Steam; Certified: Steam

Set Pressure Definition: Power Actuated

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: ValvTechnologies, LLC {VLC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1.5 NPS	0.307 in <sup>2</sup>	0.625 in		15-5000 psi	Steam	V

Design Name: Z\*\*\*-103\*\*\*5\* NBCert # 59127

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

V

05/09/2026

**Design Type**

[Power Actuated Relief Valve] Z\*\*\*-103\*\*\*5\*

Capacity Tests: Sec. V at National Board Testing Lab on May 9, 2014

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 33.700 PPH/PSIA

Media - Test: Steam; Certified: Steam

Set Pressure Definition: Power Actuated

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: ValvTechnologies, LLC {VLC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5 NPS	0.882 in <sup>2</sup>	1.06 in		15-1500 psi	Steam	V

Design Name: Z\*\*\*-105\*\*\*8\*, Z\*\*\*-105\*\*\*6\* NBCert # 59105

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

V

10/09/2027

**Design Type**

[Power Actuated Relief Valve] Z\*\*\*-105\*\*\*8\*, Z\*\*\*-105\*\*\*6\*

Capacity Tests: Sec. V at National Board Testing Lab on June 24, 2010

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value: 38.100 PPH/PSIA

Media - Test: Steam; Certified: Steam

Set Pressure Definition: Power Actuated

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: ValvTechnologies, LLC {VLC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2, 3 NPS	0.887 in <sup>2</sup>	1.062 in		75-5000 psi	Steam	V

Design Name: Z\*\*\*-107\*\*\*\*\*\_\*\*\*\*\*\_\*\*\* NBCert # 59026

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

V

01/06/2026

### Design Type

[Power Actuated Relief Valve] Z\*\*\*-107\*\*\*\*\*\_\*\*\*\*\*\_\*\*\*

Capacity Tests: Sec. V at National Board Testing Lab on September 9, 1993

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value:32.400 PPH/PSIA

Media - Test: Steam; Certified: Steam

Set Pressure Definition: Power Actuated

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: ValvTechnologies, LLC {VLC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5 NPS	4 NPS	0.886 in <sup>2</sup>	1.062 in		15-5000 psi	Steam	V

Design Name: Z\*\*\*-14\*\*\*\*\*\_\*\*\*\*\*\_\*\*\*

NBCert # 59015

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

V

01/06/2026

### Design Type

[Power Actuated Relief Valve] Z\*\*\*-14\*\*\*\*\*\_\*\*\*\*\*\_\*\*\*

Capacity Tests: Sec. V at National Board Testing Lab on September 9, 1993

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value:73.700 PPH/PSIA

Media - Test: Steam; Certified: Steam

Set Pressure Definition: Power Actuated

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: ValvTechnologies, LLC {VLC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5 NPS	4 NPS	1.767 in <sup>2</sup>	1.5 in		15-5000 psi	Steam	V

Design Name: Z\*\*\*-145\*\*\*\*\*\_\*\*\*\*\*\_\*\*\*

NBCert # 59071

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

V

10/15/2027

### Design Type

[Power Actuated Relief Valve] Z\*\*\*-145\*\*\*\*\*\_\*\*\*\*\*\_\*\*\*

Capacity Tests: Sec. V at National Board Testing Lab on October 15, 2021

Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method

Certified Value:76.760 PPH/PSIA

Media - Test: Steam; Certified: Steam

Set Pressure Definition: Power Actuated

Blowdown Characteristics: Fixed

Flow Area Configuration: Nozzle/Full Lift

Designed by: ValvTechnologies, LLC {VLC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.767 in <sup>2</sup>	1.5 in		15-1755 psi	Steam	V

Design Name: Z\*\*\*-21\*\*\*\*\*\_\*\*\*\*\*\_\*\*\*

NBCert # 59060

### Manufacturer/Assembler

### Designators

### Expiration Date

Manufacturer

V

06/16/2030



Design Type

[Power Actuated Relief Valve] Z\*\*\*-21\*\*\*\*\*-\*\*\*\*-\*\*\*  
Capacity Tests: Sec. V at National Board Testing Lab on June 16, 1992  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:143.20 PPH/PSIA  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Power Actuated  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ValvTechnologies, LLC {VLC}  
Comments: Previous designations: EOL-1-SV-FP and E\*9121

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2.5-4 NPS	4 NPS	3.547 in²	2.125 in		15-5000 psi	Steam	V

Design Name:	Z***-51C***E**Z-****-V**	NBCert #	59138
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	V	09/24/2027

Design Type

[Power Actuated Relief Valve] Z\*\*\*-51C\*\*\*E\*\*Z-\*\*\*\*-V\*\*  
Capacity Tests: Sec. V at National Board Testing Lab on September 24, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.862 Unitless; Certification Provisions: Exceeds Lab Limits (Prev. CC 2397)  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Power Actuated  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: ValvTechnologies, LLC {VLC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	10 NPS	20.629 in²	5.125 in		15-750 psi	Steam	V

Vaptec Equipement de Vapeur Industrielle Inc. (VEV) Nameplate Abbreviation: Vaptec

Montreal, QC H4S 1V3Canada

This Company Manufactures or Assembles:

Design Name:	441/442/444	NBCert #	37044
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/05/2030

Design Type

[Safety Relief Valve] 441/442/444  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on February 17, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.699 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5,2 NPS	0.644 in²	0.906 in	0.277 in	15-715 psi	Air	UV
1 NPS	1.5,2 NPS	0.644 in²	0.906 in	0.277 in	15-715 psi	Steam	UV
1.25-1.5 NPS	2 NPS	1.024 in²	1.142 in	0.349 in	15-715 psi	Air	UV
1.25-1.5 NPS	2 NPS	1.024 in²	1.142 in	0.349 in	15-715 psi	Steam	UV
1.5 NPS	2.5,3 NPS	1.667 in²	1.457 in	0.446 in	15-715 psi	Air	UV
1.5 NPS	2.5,3 NPS	1.667 in²	1.457 in	0.446 in	15-715 psi	Steam	UV
2 NPS	3 NPS	2.576 in²	1.811 in	0.554 in	15-715 psi	Air	UV
2 NPS	3 NPS	2.576 in²	1.811 in	0.554 in	15-715 psi	Steam	UV
2.5-3 NPS	4 NPS	4.383 in²	2.362 in	0.723 in	15-500 psi	Air	UV
2.5-3 NPS	4 NPS	4.383 in²	2.362 in	0.723 in	15-500 psi	Steam	UV
3 NPS	5 NPS	6.666 in²	2.913 in	0.891 in	15-500 psi	Air	UV
3 NPS	5 NPS	6.666 in²	2.913 in	0.891 in	15-500 psi	Steam	UV
4 NPS	6 NPS	10.304 in²	3.622 in	1.108 in	15-418 psi	Air	UV
4 NPS	6 NPS	10.304 in²	3.622 in	1.108 in	15-418 psi	Steam	UV
5 NPS	8 NPS	11.692 in²	3.858 in	1.181 in	15-315 psi	Air	UV
5 NPS	8 NPS	11.692 in²	3.858 in	1.181 in	15-315 psi	Steam	UV
6 NPS	10 NPS	19.021 in²	4.921 in	1.506 in	15-290 psi	Air	UV
6 NPS	10 NPS	19.021 in²	4.921 in	1.506 in	15-290 psi	Steam	UV
8 NPS	12 NPS	33.143 in²	6.496 in	1.988 in	15-430 psi	Air	UV
8 NPS	12 NPS	33.143 in²	6.496 in	1.988 in	15-430 psi	Steam	UV
10 NPS	14 NPS	48.695 in²	7.874 in	2.409 in	15-300 psi	Air	UV
10 NPS	14 NPS	48.695 in²	7.874 in	2.409 in	15-300 psi	Steam	UV
12 NPS	16 NPS	67.229 in²	9.252 in	2.831 in	15-310 psi	Air	UV
12 NPS	16 NPS	67.229 in²	9.252 in	2.831 in	15-310 psi	Steam	UV
16 NPS	20 NPS	105.94 in²	11.614 in	3.554 in	15-175 psi	Air	UV
16 NPS	20 NPS	105.94 in²	11.614 in	3.554 in	15-175 psi	Steam	UV

Design Name:	441/442/444 liquids	NBCert #	37055
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	12/20/2029
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#### Design Type

[Relief Valve] 441/442/444 liquids  
 Capacity Tests: Sec. UV at Leser GmbH & Co., KG on September 6, 1996  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.521 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.5,2 NPS	0.644 in²	0.906 in	0.277 in	15-715 psi	Water	UV

1.25-1.5 NPS	2 NPS	1.024 in <sup>2</sup>	1.142 in	0.349 in	15-715 psi	Water	UV
1.5 NPS	2.5,3 NPS	1.667 in <sup>2</sup>	1.457 in	0.446 in	15-715 psi	Water	UV
2 NPS	3 NPS	2.576 in <sup>2</sup>	1.811 in	0.554 in	15-715 psi	Water	UV
2.5-3 NPS	4 NPS	4.383 in <sup>2</sup>	2.362 in	0.723 in	15-500 psi	Water	UV
3 NPS	5 NPS	6.666 in <sup>2</sup>	2.913 in	0.891 in	15-500 psi	Water	UV
4 NPS	6 NPS	10.304 in <sup>2</sup>	3.622 in	1.108 in	15-418 psi	Water	UV
5 NPS	8 NPS	11.692 in <sup>2</sup>	3.858 in	1.181 in	15-315 psi	Water	UV
6 NPS	10 NPS	19.021 in <sup>2</sup>	4.921 in	1.506 in	15-290 psi	Water	UV
8 NPS	12 NPS	33.143 in <sup>2</sup>	6.496 in	1.988 in	15-430 psi	Water	UV
10 NPS	14 NPS	48.695 in <sup>2</sup>	7.874 in	2.409 in	15-300 psi	Water	UV
12 NPS	16 NPS	67.229 in <sup>2</sup>	9.252 in	2.831 in	15-310 psi	Water	UV
16 NPS	20 NPS	105.94 in <sup>2</sup>	11.614 in	3.554 in	15-175 psi	Water	UV

Design Name: 459/462 NBCert # 37112

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/05/2030

#### Design Type

[Safety Relief Valve] 459/462  
Capacity Tests: Sec. UV at National Board Testing Lab on February 17, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.811 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Air	UV
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Air	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Steam	UV

Design Name: 459/462 liquids NBCert # 37101

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/20/2029

## Design Type

[Relief Valve] 459/462 liquids  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.566 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Water	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Water	UV
0.5-1.5 NPS	1-2.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Water	UV
1-2 NPS	1.5-2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Water	UV

Design Name: 526 NBCert # 37224

## Manufacturer/Assembler

## Designators

## Expiration Date

Assembler

UV

08/05/2030

## Design Type

[Safety Relief Valve] 526  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 22, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Air	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-2900 psi	Steam	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Air	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Air	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-2900 psi	Steam	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Steam	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Air	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Steam	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Air	UV

4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Steam	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Air	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Steam	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Air	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Steam	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Air	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Steam	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Air	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Steam	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Air	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Steam	UV

Design Name: 526 (Liquids) NBCert # 37235

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 12/20/2029

#### Design Type

[Relief Valve] 526 (Liquids)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 2, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.579 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Water	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Water	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Water	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Water	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Water	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.6698 in	15-1850 psi	Water	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Water	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Water	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Water	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.249 in	15-1038.5 psi	Water	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Water	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-914 psi	Water	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Water	UV

Design Name:	560, 570	NBCert #	02080
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	08/05/2030

#### Design Type

[Safety Valve] 560, 570  
Capacity Tests: Sec. UV, V at National Board Testing Lab on November 10, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.856 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-300 psi	Steam	UV, V
0.75-1 NPS	1 NPS	0.221 in <sup>2</sup>	[E] 0.53 in	0.132 in	15-300 psi	Air	UV
0.75-1 NPS	1 NPS	0.221 in <sup>2</sup>	[E] 0.53 in	0.132 in	15-300 psi	Steam	UV, V
1-1.25 NPS	1.25 NPS	0.352 in <sup>2</sup>	[F] 0.67 in	0.167 in	15-300 psi	Air	UV
1-1.25 NPS	1.25 NPS	0.352 in <sup>2</sup>	[F] 0.67 in	0.167 in	15-300 psi	Steam	UV, V
1.25-1.5 NPS	1.5 NPS	0.567 in <sup>2</sup>	[G] 0.85 in	0.212 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5 NPS	0.567 in <sup>2</sup>	[G] 0.85 in	0.212 in	15-300 psi	Steam	UV, V
1.5-2 NPS	2 NPS	0.899 in <sup>2</sup>	[H] 1.07 in	0.267 in	15-300 psi	Air	UV
1.5-2 NPS	2 NPS	0.899 in <sup>2</sup>	[H] 1.07 in	0.267 in	15-300 psi	Steam	UV, V
2-2.5 NPS	2.5 NPS	1.463 in <sup>2</sup>	[J] 1.365 in	0.41 in	15-300 psi	Air	UV
2-2.5 NPS	2.5 NPS	1.463 in <sup>2</sup>	[J] 1.365 in	0.41 in	15-300 psi	Steam	UV, V

Design Name:	Series 740	NBCert #	02091
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/05/2030

#### Design Type

[Safety Relief Valve] Series 740  
Capacity Tests: Sec. UV at National Board Testing Lab on November 21, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75, 1 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.105 in	15-1500 psi	Air	UV
0.5-1 NPS	0.75, 1 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.105 in	15-300 psi	Steam	UV
0.5-1.25 NPS	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Air	UV
0.5-1.25 NPS	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-300 psi	Steam	UV

0.75-1.5 in	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Air	UV
0.75-1.5 in	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-300 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.17 in	15-300 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.17 in	15-750 psi	Air	UV
1-2 in	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.017 in	15-750 psi	Air	UV
1-2 in	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.017 in	15-300 psi	Steam	UV
1.25-2 NPS	2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.215 in	15-300 psi	Steam	UV
1.25-2 NPS	2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.215 in	15-700 psi	Air	UV
1.5-2.5 NPS	2, 2.5 NPS	0.923 in <sup>2</sup>	[H] 1.084 in	0.28 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2, 2.5 NPS	0.923 in <sup>2</sup>	[H] 1.084 in	0.28 in	15-600 psi	Air	UV
2-3 NPS	3 NPS	1.418 in <sup>2</sup>	[J] 1.344 in	0.34 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	1.418 in <sup>2</sup>	[J] 1.344 in	0.34 in	15-600 psi	Air	UV

Design Name: Series 740 (Liquid) NBCert # 02103

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	12/20/2029

#### Design Type

[Safety Relief Valve] Series 740 (Liquid)  
Capacity Tests: Sec. UV at National Board Testing Lab on November 20, 2012  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.791 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Aquatrol, Incorporated {AQT}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.75, 1 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.105 in	15-1500 psi	Water	UV
0.75-1.25 NPS	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Water	UV
0.75-1.5 in	1, 1.25 NPS	0.217 in <sup>2</sup>	[E] 0.526 in	0.135 in	15-1500 psi	Water	UV
1-1.5 NPS	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.17 in	15-750 psi	Water	UV
1-2 in	1.5 NPS	0.353 in <sup>2</sup>	[F] 0.67 in	0.017 in	15-750 psi	Water	UV
1.25-2 NPS	2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.215 in	15-700 psi	Water	UV
1.5-2.5 NPS	2, 2.5 NPS	0.923 in <sup>2</sup>	[H] 1.084 in	0.28 in	15-600 psi	Water	UV
2-3 NPS	3 NPS	1.418 in <sup>2</sup>	[J] 1.344 in	0.34 in	15-600 psi	Water	UV

#### VRC Protx LLC (VRR)

Evanston, WY 82930 United States

**This Company Manufactures or Assembles:**

Design Name:	Kunkle 264, 265, 266 & 267	NBCert #	36267
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 08/05/2030

#### Design Type

[Safety Relief Valve] Kunkle 264, 265, 266 & 267  
Capacity Tests: Sec. UV at unknown lab on July 20, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.766 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-2000 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.11 in <sup>2</sup>	0.375 in	0.115 in	15-3300 psi	Air	UV

Design Name:	Kunkle 300,600	NBCert #	36076
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV, V 08/06/2030

#### Design Type

[Safety Valve] Kunkle 300,600  
Capacity Tests: Sec. UV, V at unknown lab on February 10, 1961  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Dual Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.307 in <sup>2</sup>	[F] 0.625 in	0.156 in	15-1000 psi	Steam	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Air	UV
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	V
1.25 NPS	1.5 NPS	0.503 in <sup>2</sup>	[G] 0.8 in	0.2 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	0.785 in <sup>2</sup>	[H] 1 in	0.25 in	15-1000 psi	Steam	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Air	UV
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	V
1.5 NPS	2.5 NPS	1.287 in <sup>2</sup>	[J] 1.28 in	0.32 in	15-1000 psi	Steam	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Air	UV
2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	V



2 NPS	3 NPS	1.839 in <sup>2</sup>	[K] 1.53 in	0.383 in	15-1000 psi	Steam	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Air	UV
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	V
2.5 NPS	4 NPS	2.853 in <sup>2</sup>	[L] 1.906 in	0.477 in	15-1000 psi	Steam	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Air	UV
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	V
3 NPS	4 NPS	3.597 in <sup>2</sup>	[M] 2.14 in	0.535 in	15-1000 psi	Steam	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Air	UV
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	V
4 NPS	6 NPS	4.34 in <sup>2</sup>	[N] 2.35 in	0.588 in	15-750 psi	Steam	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Air	UV
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	V
4 NPS	6 NPS	6.38 in <sup>2</sup>	[P] 2.85 in	0.713 in	15-750 psi	Steam	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Air	UV
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	V
6 NPS	8 NPS	11.045 in <sup>2</sup>	[Q] 3.75 in	0.938 in	15-600 psi	Steam	UV

Design Name: Kunkle 337

NBCert # 36278

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/13/2030

#### Design Type

[Safety Relief Valve] Kunkle 337  
Capacity Tests: Sec. UV at unknown lab on February 22, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.860 Unitless  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	1.916 in <sup>2</sup>	1.562 in	0.612 in	15-60 psi	Air	UV
2.5 NPS	2.5 NPS	2.786 in <sup>2</sup>	1.883 in	0.755 in	15-60 psi	Air	UV
3 NPS	3 NPS	4.037 in <sup>2</sup>	2.267 in	0.91 in	15-60 psi	Air	UV

Design Name: Kunkle 6000, 6252 Series

NBCert # 36324

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	08/06/2030

## Design Type

[Safety Valve] Kunkle 6000, 6252 Series  
 Capacity Tests: Sec. UV, V at unknown lab on March 24, 1982  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless  
 Media - Test: Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Dual Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Air	UV
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	V
0.5-0.75 NPS	.75 NPS	0.121 in <sup>2</sup>	[D] 0.393 in	0.094 in	15-300 psi	Steam	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Air	UV
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	V
0.75-1 NPS	1, 1.25 NPS	0.216 in <sup>2</sup>	[E] 0.524 in	0.125 in	15-300 psi	Steam	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Air	UV
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	V
1-1.25 NPS	1.25, 1.5 NPS	0.336 in <sup>2</sup>	[F] 0.654 in	0.156 in	15-300 psi	Steam	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Air	UV
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	V
1.25-1.5 NPS	1.5, 2 NPS	0.554 in <sup>2</sup>	[G] 0.84 in	0.2 in	15-300 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Air	UV
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	V
1.5-2 NPS	2, 2.5 NPS	0.863 in <sup>2</sup>	[H] 1.048 in	0.25 in	15-300 psi	Steam	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Air	UV
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	V
1.5-2.5 NPS	2.5, 3 NPS	1.414 in <sup>2</sup>	[J] 1.342 in	0.32 in	15-300 psi	Steam	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Air	UV
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	V
2-3 NPS	3 NPS	2.022 in <sup>2</sup>	[K] 1.605 in	0.432 in	15-250 psi	Steam	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Air	UV
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	V
2.5-4 NPS	4 NPS	3.138 in <sup>2</sup>	[L] 1.999 in	0.539 in	15-250 psi	Steam	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Air	UV
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	V
3-4 NPS	4 NPS	3.96 in <sup>2</sup>	[M] 2.246 in	0.605 in	15-250 psi	Steam	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Air	UV
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	V
4 NPS	6 NPS	4.774 in <sup>2</sup>	[N] 2.466 in	0.664 in	15-250 psi	Steam	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Air	UV
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	V
4 NPS	6 NPS	7.018 in <sup>2</sup>	[P] 2.99 in	0.805 in	15-250 psi	Steam	UV

6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Air	UV
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	V
6 NPS	8 NPS	12.155 in <sup>2</sup>	[Q] 3.935 in	1.06 in	15-250 psi	Steam	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Air	UV
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	V
6 NPS	8 NPS	17.6 in <sup>2</sup>	[R] 4.735 in	1.276 in	15-250 psi	Steam	UV

Design Name:	Kunkle 910 to 919	NBCert #	36100
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/05/2030

Design Type
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[Safety Relief Valve] Kunkle 910 to 919  
Capacity Tests: Sec. UV at unknown lab on May 19, 1969  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Air	UV
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Air	UV
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Air	UV
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Air	UV
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Air	UV
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	UV

Design Name:	Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)	NBCert #	36111
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV, V	06/13/2030

Design Type
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[Relief Valve] Kunkle 910 to 919 (Sect. VIII Liquid), 928 and 929 (Sect. I Liquid)  
Capacity Tests: Sec. UV, V at unknown lab on May 8, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.710 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75 , 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.126 in	15-1400 psi	Water	UV, V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.168 in	15-1000 psi	Water	UV, V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.21 in	15-700 psi	Water	UV, V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.268 in	15-600 psi	Water	UV, V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.336 in	15-500 psi	Water	UV, V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.429 in	15-500 psi	Water	UV, V

Design Name: Kunkle 920, 921, 927, Agco A (High Temp. water) NBCert # 36098

Manufacturer/Assembler	Designators	Expiration Date
Assembler	V	08/07/2030

### Design Type

[Safety Valve] Kunkle 920, 921, 927, Agco A (High Temp. water)  
 Capacity Tests: Sec. V at unknown lab on May 19, 1969  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.878 Unitless; Certification Provisions: Forced Flow Steam Generator/High Temp Hot Water (10% BD)  
 Media - Test: Steam; Certified: Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Emerson Automation Solutions Final Control US LP {AGC}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.1213 in <sup>2</sup>	[D] 0.393 in	0.106 in	15-1400 psi	Steam	V
0.75-1.25 NPS	1.25 NPS	0.2157 in <sup>2</sup>	[E] 0.524 in	0.142 in	15-1100 psi	Steam	V
1-1.5 NPS	1.5 NPS	0.3369 in <sup>2</sup>	[F] 0.655 in	0.177 in	15-1100 psi	Steam	V
1.25-2 NPS	2 NPS	0.553 in <sup>2</sup>	[G] 0.839 in	0.227 in	15-1100 psi	Steam	V
1.5-2 NPS	2.5 NPS	0.864 in <sup>2</sup>	[H] 1.049 in	0.283 in	15-1000 psi	Steam	V
2-2.5 NPS	3 NPS	1.415 in <sup>2</sup>	[J] 1.342 in	0.363 in	15-800 psi	Steam	V

## Watts Regulator Company (WWF) Nameplate Abbreviation: WATTS REGULATOR OR WATTS REGULATOR CO.

Franklin, NH 03235United States

### This Company Manufactures or Assembles:

Design Name: (L) 315 Mod. M1 and M2 NBCert # 63223

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	08/29/2029

**Design Type**

[Safety Valve] (L) 315 Mod. M1 and M2  
Capacity Tests: Sec. HV at National Board Testing Lab on September 19, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:379.00 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.307 in <sup>2</sup>	0.625 in		15-15 psi	Steam	HV

Design Name: (LF, M) 335 Mod. M1 & M2 NBCert # 63256

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/25/2029

**Design Type**

[Safety Relief Valve] (LF, M) 335 Mod. M1 & M2  
Capacity Tests: Sec. HV at National Board Testing Lab on June 22, 1995  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:529.00 PPH  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.307 in <sup>2</sup>	0.625 in		30-30 psi	Steam	HV

Design Name: 1" 140S, 140X (Mod. M15) (LF prefix also) NBCert # 63043

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/26/2029

**Design Type**

[Temperature Actuated Pressure Relief Valve] 1" 140S, 140X (Mod. M15) (LF prefix also)  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on March 7, 1971  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:17.160 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: 40 CC Method  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.601 in <sup>2</sup>	0.875 in	0.265 in	75-150 psi	Steam	HV

Design Name: 1" 40L (LL) 40XL (Z2) , Mod 15 (LF prefix also) NBCert # 63032

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/26/2029

**Design Type**

[Temperature Actuated Pressure Relief Valve] 1" 40L (LL) 40XL (Z2) , Mod 15 (LF prefix also)  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on March 6, 1971  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:11.880 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: 40 CC Method  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.442 in <sup>2</sup>	0.75 in	0.265 in	75-150 psi	Steam	HV

Design Name: 1" N240X(-6,-9),1-1/4 N241X(-5,-8) Mod. M15 (LF prefix also) NBCert # 63100

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

04/04/2029

**Design Type**

[Temperature Actuated Pressure Relief Valve] 1" N240X(-6,-9),1-1/4 N241X(-5,-8) Mod. M15 (LF prefix also)  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on January 16, 1971  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:22.590 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: 40 CC Method  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.25 NPS	1 NPS	0.785 in <sup>2</sup>	1 in	0.245 in	75-150 psi	Steam	HV

Design Name: 174A M3, 474A M2, M474-M2 (3/4")(also LF prefix) NBCert # 63054

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/25/2029

**Design Type**

[Safety Relief Valve] 174A M3, 474A M2, M474-M2 (3/4")(also LF prefix)  
Capacity Tests: Sec. HV at unknown lab on June 3, 1973  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:13.610 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.442 in <sup>2</sup>	0.75 in	0.265 in	30-150 psi	Steam	HV

Design Name: 174A Model M1 (1")(also LF prefix) NBCert # 63065

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/25/2029

### Design Type

[Safety Relief Valve] 174A Model M1 (1") (also LF prefix)  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on February 7, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 21.204 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.601 in <sup>2</sup>	0.875 in	0.265 in	30-150 psi	Steam	HV

Design Name: 174A, LF174A M1 (1-1/4") NBCert # 63076

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	01/05/2029

### Design Type

[Safety Relief Valve] 174A, LF174A M1 (1-1/4")  
Capacity Tests: Sec. HV at unknown lab on March 23, 1976  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 35.360 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.25 NPS	1.227 in <sup>2</sup>	1.255 in	0.375 in	30-150 psi	Steam	HV

Design Name: 174A, LF174A Model M (1-1/2") NBCert # 63087

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	10/07/2026

### Design Type

[Safety Relief Valve] 174A, LF174A Model M (1-1/2")  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on February 7, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 42.450 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	1.5 NPS	1.767 in <sup>2</sup>	1.5 in	0.361 in	30-150 psi	Steam	HV

Design Name: 174A, LF174A Model M (2") NBCert # 63098

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	HV	10/07/2026

**Design Type**

[Safety Relief Valve] 174A, LF174A Model M (2")  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on February 7, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:80.000 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2 NPS	3.14 in <sup>2</sup>	2 in	0.375 in	30-150 psi	Steam	HV

Design Name: 3/4" (M)354A NBCert # 63403

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

04/04/2029

**Design Type**

[Safety Relief Valve] 3/4" (M)354A  
Capacity Tests: Sec. HV at National Board Testing Lab on August 29, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:555.00 PPH  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.307 in <sup>2</sup>	0.625 in		30-30 psi	Steam	HV

Design Name: 3/4" 40L, (LL, LLL) 40XL, 140S, 140X, (Z2) Mod. M15 (LF prefix also) NBCert # 63021

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/26/2029

**Design Type**

[Temperature Actuated Pressure Relief Valve] 3/4" 40L, (LL, LLL) 40XL, 140S, 140X, (Z2) Mod. M15 (LF prefix also)  
Capacity Tests: Sec. HV at unknown lab on March 6, 1973  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 8.000 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: 40 CC Method  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.442 in <sup>2</sup>	0.75 in	0.265 in	75-150 psi	Steam	HV

Design Name: 330-M1 & M330-M1 NBCert # 63267

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

08/24/2029



**Design Type**

[Safety Relief Valve] 330-M1 & M330-M1  
Capacity Tests: Sec. HV at National Board Testing Lab on December 1, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:375.00 PPH  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.273 in <sup>2</sup>	0.59 in		30-30 psi	Steam	HV

Design Name: 340-3, 340X-8 M15, 342-3, 342X-8 M15 (T & P) (LF prefix also) NBCert # 63122

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

04/04/2029

**Design Type**

[Temperature Actuated Pressure Relief Valve] 340-3, 340X-8 M15, 342-3, 342X-8 M15 (T & P) (LF prefix also)  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on January 17, 1971  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:35.500 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: 40 CC Method  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5-2 NPS	1.5 NPS	1.227 in <sup>2</sup>	1.25 in	0.312 in	75-150 psi	Steam	HV

Design Name: 374A & M374 Model M & TACO Inc. 333-1 (also LF prefix) NBCert # 63144

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

04/09/2027

**Design Type**

[Safety Relief Valve] 374A & M374 Model M & TACO Inc. 333-1(also LF prefix)  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on February 16, 1960  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:11.430 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.442 in <sup>2</sup>	0.75 in	0.218 in	30-50 psi	Steam	HV

Design Name: 375-M1 & M375-M1 NBCert # 63302

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/26/2029

**Design Type**

[Safety Relief Valve] 375-M1 & M375-M1  
Capacity Tests: Sec. HV at National Board Testing Lab on May 15, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:783.00 PPH  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.3068 in <sup>2</sup>	0.625 in	0.125 in	75-75 psi	Steam	HV

Design Name: 3L, 10L, (F, SL, L, LL, LLL, RL) 100XL Mod. M7 (LF prefix also) NBCert # 63009

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/26/2029

**Design Type**

[Temperature Actuated Pressure Relief Valve] 3L, 10L, (F, SL, L, LL, LLL, RL) 100XL Mod. M7 (LF prefix also)  
Capacity Tests: Sec. HV at unknown lab on September 23, 1982  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 2.060 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: 40 CC Method  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.172 in <sup>2</sup>	0.468 in	0.062 in	75-150 psi	Steam	HV

Design Name: 415 M1 (3/4") NBCert # 63245

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/25/2029

**Design Type**

[Safety Valve] 415 M1 (3/4")  
Capacity Tests: Sec. HV at National Board Testing Lab on August 16, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:450.00 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS				15-15 psi	Steam	HV

Design Name: 415 Model M (1 1/2") NBCert # 63289

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

02/23/2027

**Design Type**

[Safety Valve] 415 Model M (1 1/2")  
Capacity Tests: Sec. HV at National Board Testing Lab on January 10, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:1862.0 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS	1.227 in <sup>2</sup>	1.25 in		15-15 psi	Steam	HV

Design Name: 415 Model M (1 1/4") NBCert # 63278

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

02/23/2027

**Design Type**

[Safety Valve] 415 Model M (1 1/4")  
Capacity Tests: Sec. HV at National Board Testing Lab on January 10, 2000  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:1232.0 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	0.785 in <sup>2</sup>	1 in		15-15 psi	Steam	HV

Design Name: 415-M1 (1") NBCert # 63324

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

01/25/2029

**Design Type**

[Safety Valve] 415-M1 (1")  
Capacity Tests: Sec. HV at National Board Testing Lab on October 31, 1996  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:643.00 PPH; Certification Provisions: (HV) Low Pressure Steam  
Media - Test: Steam; Certified: Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1 NPS	0.46 in <sup>2</sup>	0.765 in	0.25 in	15-15 psi	Steam	HV

Design Name: 4L, LF4L, M7 (3/4") NBCert # 63335

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

04/04/2029

**Design Type**

[Safety Relief Valve] 4L, LF4L, M7 (3/4")  
Capacity Tests: Sec. HV at National Board Testing Lab on November 30, 2011  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:648.00 PPH  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: 40 CC Method  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	.75 NPS	0.17 in²	0.468 in	0.12 in	150 psi	Steam	HV

Design Name: 4L, LF4L, M8 (3/4") NBCert # 63313

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

06/25/2027

**Design Type**

[Safety Relief Valve] 4L, LF4L, M8 (3/4")  
Capacity Tests: Sec. HV at National Board Testing Lab on January 19, 2021  
Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method  
Certified Value:870300 BTU/HR  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: 40 CC Method  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	0.75 NPS	0.17 in²	0.468 in	0.12 in	150-150 psi	Steam	HV

Design Name: 740 Model M (1 1/2") NBCert # 63201

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

04/04/2029

**Design Type**

[Safety Relief Valve] 740 Model M (1 1/2")  
Capacity Tests: Sec. HV at unknown lab on March 24, 1973  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:60.800 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	2 NPS		1.5 in	0.437 in	30-75 psi	Steam	HV

Design Name: 740 Model M (1 1/4") NBCert # 63199

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

03/16/2027

**Design Type**

[Safety Relief Valve] 740 Model M (1 1/4")  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on December 28, 1956  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:44.100 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.25 NPS	1.5 NPS	1.227 in <sup>2</sup>	1.255 in	0.37 in	30-75 psi	Steam	HV

Design Name: 740 Model M (1") NBCert # 63188

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

03/06/2027

**Design Type**

[Safety Relief Valve] 740 Model M (1")  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on February 10, 1973  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:27.250 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	1.25 NPS	0.785 in <sup>2</sup>	1 in	0.302 in	30-75 psi	Steam	HV

Design Name: 740 Model M (2") NBCert # 63212

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

03/06/2027

**Design Type**

[Safety Relief Valve] 740 Model M (2")  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on January 17, 1957  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value:110.07 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	2.5 NPS	3.142 in <sup>2</sup>	2 in	0.585 in	30-75 psi	Steam	HV

Design Name: 740 Model M1 (3/4") NBCert # 63177

**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

HV

03/06/2027

Design Type

[Safety Relief Valve] 740 Model M1 (3/4")  
Capacity Tests: Sec. HV at Ohio State University (Robinson Laboratory) on February 10, 1973  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 19.400 PPH/PSIA  
Media - Test: Steam; Certified: Saturated Water  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Designed by: Watts Regulator Company {WWF}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75 NPS	1 NPS	0.559 in²	0.844 in	0.265 in	30-75 psi	Steam	HV

Westech Industrial Ltd (WEI)Nameplate Abbreviation: WIL

London, ON N5V 4K8Canada

This Company Manufactures or Assembles:

Design Name: 437		NBCert # 37213
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/14/2029

Design Type

[Safety Relief Valve] 437  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on November 8, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.020 SCFM/PSIA; (alternate medium): 2.870 PPH/PSIA  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-1 NPS	0.5 - 1 NPS	0.082 in²	0.394 in	0.055 in	15-2610 psi	Air	UV
0.375-1 NPS	0.5 - 1 NPS	0.082 in²	0.394 in	0.055 in	15-2610 psi	Steam	UV

Design Name: 437 (Liquids)		NBCert # 37189
Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	08/14/2029

Design Type

[Relief Valve] 437 (Liquids)  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on November 22, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.540 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5 - 1 NPS	0.082 in²	0.394 in	0.055 in	15-2610 psi	Water	UV
Design Name: 438 Sub Types 481, 439			NBCert #		37190		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		05/25/2029		
Design Type							
[Safety Relief Valve] 438 Sub Types 481, 439 Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on November 12, 2001 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 0.904 SCFM/PSIA; (alternate medium): 2.530 PPH/PSIA Media - Test: Air/Gas; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH & Co. KG {LES}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.375-1 NPS	0.5 - 1 NPS	0.064 in²	0.394 in	0.043 in	15-2610 psi	Air	UV
0.375-1 NPS	0.5 - 1 NPS	0.064 in²	0.394 in	0.043 in	15-2610 psi	Steam	UV
Design Name: 438 Sub Types 481, 439, Liquids			NBCert #		37202		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		05/24/2029		
Design Type							
[Safety Relief Valve] 438 Sub Types 481, 439, Liquids Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on November 23, 2001 Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method Certified Value: 1.490 GPM/SQ.RT. PSID Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Curtain Area Designed by: LESER GmbH & Co. KG {LES}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	0.5-1 NPS	0.064 in²	0.394 in	0.043 in	15-2610 psi	Water	UV
Design Name: 459/462			NBCert #		37112		
Manufacturer/Assembler			Designators		Expiration Date		
Assembler			UV		05/25/2029		
Design Type							
[Safety Relief Valve] 459/462 Capacity Tests: Sec. UV at National Board Testing Lab on February 17, 1997 Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.811 Unitless Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam Set Pressure Definition: Initial Audible Discharge Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: LESER GmbH & Co. KG {LES}							

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Air	UV
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Air	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	1-1.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Air	UV
1-2 NPS	1.5 - 2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Steam	UV

Design Name:	459/462 liquids	NBCert #	37101
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 05/24/2029

#### Design Type

[Relief Valve] 459/462 liquids  
Capacity Tests: Sec. UV at National Board Testing Lab on January 29, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.566 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1.8125 NPS	1-2 NPS	0.0438 in <sup>2</sup>	0.236 in	0.043 in	15-13780 psi	Water	UV
0.5-1.5 NPS	1-1.5 NPS	0.0986 in <sup>2</sup>	0.354 in	0.08 in	15-6175 psi	Water	UV
0.5-1.5 NPS	1-2.5 NPS	0.206 in <sup>2</sup>	0.512 in	0.118 in	15-2940 psi	Water	UV
1-2 NPS	1.5-2 NPS	0.373 in <sup>2</sup>	0.689 in	0.159 in	15-1470 psi	Water	UV

Design Name:	526	NBCert #	37224
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 05/25/2029

#### Design Type

[Safety Relief Valve] 526  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on November 22, 2001  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Air	UV



1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-2900 psi	Steam	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Air	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Air	UV
1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-2900 psi	Steam	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Air	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-2900 psi	Steam	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Air	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.669 in	15-1850 psi	Steam	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Air	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Steam	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Air	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Steam	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Air	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Steam	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Air	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.248 in	15-1038.5 psi	Steam	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Air	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Steam	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Air	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-913.5 psi	Steam	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Air	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Steam	UV

Design Name: 526 (Liquids)

NBCert # 37235

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	05/24/2029

#### Design Type

[Relief Valve] 526 (Liquids)  
Capacity Tests: Sec. UV at Leser GmbH & Co., KG on January 2, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.579 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.239 in <sup>2</sup>	[E] 0.551 in	0.138 in	15-6000 psi	Water	UV
1.5-1.5 NPS	2,3 NPS	0.394 in <sup>2</sup>	[F] 0.709 in	0.217 in	15-5000 psi	Water	UV
1.5-2 NPS	3 NPS	0.616 in <sup>2</sup>	[G] 0.886 in	0.268 in	15-3705 psi	Water	UV

1.5-2 NPS	3 NPS	0.975 in <sup>2</sup>	[H] 1.114 in	0.323 in	15-8850 psi	Water	UV
2-3 NPS	3,4 NPS	1.578 in <sup>2</sup>	[J] 1.417 in	0.453 in	15-4134 psi	Water	UV
3 NPS	4,6 NPS	2.251 in <sup>2</sup>	[K] 1.693 in	0.532 in	15-3700 psi	Water	UV
3-4 NPS	4,6 NPS	3.484 in <sup>2</sup>	[L] 2.106 in	0.6698 in	15-1850 psi	Water	UV
4 NPS	6 NPS	4.426 in <sup>2</sup>	[M] 2.374 in	0.768 in	15-1100 psi	Water	UV
4 NPS	6 NPS	5.302 in <sup>2</sup>	[N] 2.598 in	0.827 in	15-2760 psi	Water	UV
4 NPS	6 NPS	7.79 in <sup>2</sup>	[P] 3.15 in	1.036 in	15-1400 psi	Water	UV
6 NPS	8 NPS	13.548 in <sup>2</sup>	[Q] 4.154 in	1.249 in	15-1038.5 psi	Water	UV
6 NPS	8 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-100 psi	Water	UV
6 NPS	10 NPS	19.325 in <sup>2</sup>	[R] 4.961 in	1.497 in	15-914 psi	Water	UV
8 NPS	10 NPS	31.749 in <sup>2</sup>	[T] 6.358 in	1.931 in	15-522 psi	Water	UV

Design Name:	526D	NBCert #	37246
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 05/25/2029

#### Design Type

[Safety Relief Valve] 526D  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.990 SCFM/PSIA; (alternate medium): 5.590 PPH/PSIA  
Media - ; Certified: Air, Gas, Steam  
Set Pressure Definition: Initial Audible Discharge  
Blowdown Characteristics: Adjustable  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-2900 psi	Steam	UV
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-10878 psi	Air	UV

Design Name:	526D Liquids	NBCert #	37257
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 05/24/2029

#### Design Type

[Relief Valve] 526D Liquids  
Capacity Tests: Sec. UV at Leser Gmbh & Co., KG on March 4, 2002  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.110 GPM/SQ.RT. PSID  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Curtain Area  
Designed by: LESER GmbH & Co. KG {LES}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2,3 NPS	0.121 in <sup>2</sup>	[D] 0.551 in	0.0551 in	15-10878 psi	Water	UV

# YONGYI VALVE GROUP CO., LTD. (YOY)

Nameplate Abbreviation: YOY

Zhejiang, 325105People's Republic of China

## This Company Manufactures or Assembles:

Design Name: YFA42C-150C 2J3		NBCert # 04127
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/03/2029
Design Type		
[Safety Relief Valve] YFA42C-150C 2J3 Capacity Tests: Sec. UV at National Board Testing Lab on September 19, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:2578.0 SCFM Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Designed by: YONGYI VALVE GROUP CO., LTD. {YOY}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
2 NPS	3 NPS	1.285 in <sup>2</sup>	[J] 1.2795 in	0.32 in	100-100 psi	Air	UV

Design Name: YFA42C-300aC 1-1/2G3		NBCert # 04116
Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UV	08/03/2029
Design Type		
[Safety Relief Valve] YFA42C-300aC 1-1/2G3 Capacity Tests: Sec. UV at National Board Testing Lab on September 19, 2016 Method of Establishing Relieving Capacity: Flow Capacity, 3-Device Method Certified Value:1892.0 SCFM Media - Test: Air/Gas; Certified: Air, Gas Set Pressure Definition: Pop Blowdown Characteristics: Adjustable (Single Ring) Designed by: YONGYI VALVE GROUP CO., LTD. {YOY}		

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS	3 NPS	0.501 in <sup>2</sup>	[G] 0.8 in	0.2 in	200-200 psi	Air	UV

# YUSUF BIN AHMED KANOO COMPANY LIMITED (YAK)

Nameplate Abbreviation: YBA KANOO - FLOW CONTROL

Dammam, 31411Saudi Arabia

## This Company Manufactures or Assembles:

Design Name: 2600 & 2600S	NBCert # 57057
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	04/27/2027
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#### Design Type

[Safety Relief Valve] 2600 & 2600S  
Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.858 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Adjustable (Single Ring)  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV

8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name: 2600L (Liquids)	NBCert # 57068
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	06/03/2026
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#### Design Type

[Relief Valve] 2600L (Liquids)  
 Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.652 Unitless  
 Media - Test: Liquid; Certified: Liquid  
 Set Pressure Definition: First Steady Stream  
 Blowdown Characteristics: Fixed  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/28/2025

### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	07/28/2025

### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800	NBCert # 57024
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	06/03/2026
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV

3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800FP

NBCert # 57035

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/03/2026

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV



10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 07/28/2025

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

**Yusuf Bin Ahmed Kanoo Company Limited (YUS)**

Nameplate Abbreviation: Yusuf Bin  
Ahmed Kanoo Company Limited

Jubail Industrial City, 31951 Saudi Arabia

#### This Company Manufactures or Assembles:

Design Name: 2600 & 2600S NBCert # 57057

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/10/2025

## Design Type

[Safety Relief Valve] 2600 & 2600S  
 Capacity Tests: Sec. UV at unknown lab on June 11, 1972  
 Method of Establishing Relieving Capacity: Flow Capacity, K  
 Certified Value: 0.858 Unitless  
 Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
 Set Pressure Definition: Pop  
 Blowdown Characteristics: Adjustable (Single Ring)  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.109 in	15-2900 psi	Steam	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-10000 psi	Air	UV
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-10000 psi	Air	UV
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.172 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-2900 psi	Steam	UV
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.253 in	15-7000 psi	Air	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-2900 psi	Steam	UV
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.316 in	15-6000 psi	Air	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-2900 psi	Steam	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.405 in	15-6000 psi	Air	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-2900 psi	Steam	UV
3 NPS	4 - 6 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.484 in	15-5000 psi	Air	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-2900 psi	Steam	UV
3-4 NPS	4 - 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.603 in	15-4000 psi	Air	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.677 in	15-3000 psi	Air	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-2900 psi	Steam	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.743 in	15-3000 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Air	UV
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	0.901 in	15-2500 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.186 in	15-2000 psi	Steam	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Air	UV
6-8 NPS	8 - 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.427 in	15-1500 psi	Steam	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Air	UV
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	1.821 in	15-1000 psi	Steam	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Air	UV
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	1.899 in	15-300 psi	Steam	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Air	UV
10 NPS	14 NPS	49.4 in <sup>2</sup>	[V] 7.93 in	2.379 in	15-1000 psi	Steam	UV
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Air	UV

12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	2.7 in	15-1000 psi	Steam	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Air	UV
16 NPS	18 NPS	104 in <sup>2</sup>	[W2] 11.507 in	3.452 in	15-750 psi	Steam	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Air	UV
16 NPS	20 NPS	113.1 in <sup>2</sup>	[X] 12 in	3.6 in	15-750 psi	Steam	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Air	UV
18 NPS	24 NPS	143.1 in <sup>2</sup>	[Y] 13.5 in	4.05 in	15-750 psi	Steam	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Air	UV
20 NPS	24 NPS	176.7 in <sup>2</sup>	[Z] 15 in	4.5 in	15-750 psi	Steam	UV

Design Name:	2600L (Liquids)	NBCert #	57068
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/10/2025

#### Design Type

[Relief Valve] 2600L (Liquids)  
Capacity Tests: Sec. UV, V at unknown lab on January 29, 1985  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.652 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-2 NPS	2 - 3 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.131 in	15-10000 psi	Water	UV, V
1-2 NPS	2 - 3 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.16 in	15-6000 psi	Water	UV, V
1.5-2 NPS	2 - 3 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.206 in	15-5000 psi	Water	UV, V
1.5-2 NPS	2.5, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.326 in	15-3600 psi	Water	UV, V
1.5-2 NPS	3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.407 in	15-2750 psi	Water	UV, V
2-3 NPS	2 - 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.521 in	15-2700 psi	Water	UV, V
3 NPS	4, 6 NPS	2.041 in <sup>2</sup>	[K] 1.612 in	0.622 in	15-2200 psi	Water	UV, V
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.775 in	15-1500 psi	Water	UV, V
4 NPS	6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.871 in	15-1100 psi	Water	UV, V
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.957 in	15-1000 psi	Water	UV, V
4 NPS	6 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.16 in	15-1000 psi	Water	UV, V
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.525 in	15-900 psi	Water	UV, V
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.837 in	15-600 psi	Water	UV, V
8-10 NPS	10, 12 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.339 in	15-300 psi	Water	UV, V
8-10 NPS	10, 12 NPS	31.5 in <sup>2</sup>	[U] 6.333 in	2.47 in	15-300 psi	Water	UV, V
12 NPS	16 NPS	63.62 in <sup>2</sup>	[W] 9 in	3.5 in	15-300 psi	Water	UV, V

Design Name:	2700, 2700S, 3700, 3700S	NBCert #	57237
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/11/2025

### Design Type

[Safety Relief Valve] 2700, 2700S, 3700, 3700S  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 14, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.878 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-2900 psi	Steam	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Air	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-2900 psi	Steam	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-10000 psi	Air	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.0895 in	15-2900 psi	Steam	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Air	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-2900 psi	Steam	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Air	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-2900 psi	Steam	UV
1.5-2 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Air	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-2900 psi	Steam	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Air	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-2900 psi	Steam	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Air	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-2900 psi	Steam	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Air	UV

Design Name:	2700L, 3700L (Liquids)	NBCert #	57248
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Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/10/2025

### Design Type

[Relief Valve] 2700L, 3700L (Liquids)  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on September 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.676 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition: First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-1 NPS	.75, 1 NPS	0.038 in <sup>2</sup>	[B] 0.22 in	0.05 in	15-16000 psi	Water	UV
0.5-1.5 NPS	.75 - 2 NPS	0.068 in <sup>2</sup>	[C] 0.295 in	0.074 in	15-10000 psi	Water	UV
0.5-1 NPS	.75, 1 NPS	0.098 in <sup>2</sup>	[1] 0.358 in	0.089 in	15-10000 psi	Water	UV
0.5-2 NPS	1 - 2 NPS	0.125 in <sup>2</sup>	[D] 0.4 in	0.1 in	15-10000 psi	Water	UV
1 NPS	1.5, 2 NPS	0.223 in <sup>2</sup>	[E] 0.533 in	0.134 in	15-10000 psi	Water	UV
1.5 NPS	2, 2.5 NPS	0.35 in <sup>2</sup>	[F] 0.668 in	0.167 in	15-7000 psi	Water	UV
1.5-2 NPS	2., 3 NPS	0.573 in <sup>2</sup>	[G] 0.855 in	0.215 in	15-5000 psi	Water	UV
2 NPS	3 NPS	0.898 in <sup>2</sup>	[H] 1.069 in	0.268 in	15-4000 psi	Water	UV
3 NPS	4 NPS	1.47 in <sup>2</sup>	[J] 1.368 in	0.342 in	15-3000 psi	Water	UV

Design Name: 3800	NBCert # 57024
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Manufacturer/Assembler	Designators	Expiration Date
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Assembler	UV	06/10/2025
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#### Design Type

[Pilot Operated Pressure Relief Valve] 3800  
Capacity Tests: Sec. UV at unknown lab on May 20, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.859 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-1050 psi	Steam	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Air	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-1050 psi	Steam	UV
1-2 NPS	2, 3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Air	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-1050 psi	Steam	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Air	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-1050 psi	Steam	UV
1.5-3 NPS	2, 3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Air	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-1050 psi	Steam	UV
2-3 NPS	3, 4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Air	UV

3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Air	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-1050 psi	Steam	UV
3-4 NPS	4, 6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Air	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-1050 psi	Steam	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Air	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Air	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-1050 psi	Steam	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Air	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Air	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1050 psi	Steam	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Air	UV

Design Name: 3800FP

NBCert # 57035

Manufacturer/Assembler	Designators	Expiration Date
Assembler	UV	06/11/2025

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800FP  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on April 26, 1994  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.801 Unitless  
Media - Test: Air/Gas, Steam; Certified: Air, Gas, Steam  
Set Pressure Definition(1): Pop; (3): Initial Audible Discharge  
Blowdown Characteristics: Adjustable and Fixed for Mod. Pilot  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-10000 psi	Air	UV
1 NPS	2, 3 NPS	0.719 in <sup>2</sup>	[A] 0.957 in	0.354 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-1050 psi	Steam	UV
1.5 NPS	2, 3 NPS	1.767 in <sup>2</sup>	[1] 1.5 in	0.555 in	15-7000 psi	Air	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-1050 psi	Steam	UV
2 NPS	3 NPS	2.953 in <sup>2</sup>	[2] 1.939 in	0.717 in	15-7000 psi	Air	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-1050 psi	Steam	UV
3 NPS	4 NPS	6.605 in <sup>2</sup>	[3] 2.9 in	1.073 in	15-5000 psi	Air	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-1050 psi	Steam	UV
4 NPS	6 NPS	11.5 in <sup>2</sup>	[4] 3.826 in	1.416 in	15-4000 psi	Air	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-1050 psi	Steam	UV
6 NPS	8 NPS	26.07 in <sup>2</sup>	[6] 5.761 in	2.132 in	15-2000 psi	Air	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-1050 psi	Steam	UV
8 NPS	10 NPS	45.66 in <sup>2</sup>	[8] 7.625 in	2.821 in	15-2000 psi	Air	UV
10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1400 psi	Air	UV

10 NPS	14 NPS	72 in <sup>2</sup>	[10] 9.575 in	3.55 in	15-1050 psi	Steam	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Air	UV
12 NPS	16 NPS	109.5 in <sup>2</sup>	[12] 11.81 in	4.37 in	15-800 psi	Steam	UV

Design Name: 3800L, PCL, PCM pilots NBCert # 57215

Manufacturer/Assembler	Designators	Expiration Date
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Assembler UV 06/11/2025

#### Design Type

[Pilot Operated Pressure Relief Valve] 3800L, PCL, PCM pilots  
Capacity Tests: Sec. UV at Farris Engineering, Division of Curtiss-Wright Flow Control Corporation on February 4, 1997  
Method of Establishing Relieving Capacity: Flow Capacity, K  
Certified Value: 0.782 Unitless  
Media - Test: Liquid; Certified: Liquid  
Set Pressure Definition(1): Pop; (2): First Steady Stream  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Farris Engineering, Division of Curtiss-Wright Flow Control Corporation {TFO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1.5 NPS	2 NPS	0.15 in <sup>2</sup>	[D] 0.437 in	0.162 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.225 in <sup>2</sup>	[E] 0.535 in	0.198 in	15-10000 psi	Water	UV
1-1.5 NPS	2 NPS	0.371 in <sup>2</sup>	[F] 0.687 in	0.254 in	15-10000 psi	Water	UV
1.5-2 NPS	2,3 NPS	0.559 in <sup>2</sup>	[G] 0.844 in	0.312 in	15-7000 psi	Water	UV
1.5-2 NPS	2, 3 NPS	0.873 in <sup>2</sup>	[H] 1.054 in	0.39 in	15-7000 psi	Water	UV
2-3 NPS	3, 4 NPS	1.43 in <sup>2</sup>	[J] 1.35 in	0.5 in	15-7000 psi	Water	UV
3 NPS	4 NPS	2.042 in <sup>2</sup>	[K] 1.612 in	0.596 in	15-7000 psi	Water	UV
3-4 NPS	4,6 NPS	3.17 in <sup>2</sup>	[L] 2.009 in	0.743 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	3.42 in <sup>2</sup>	[L1] 2.088 in	0.773 in	15-4000 psi	Water	UV
3-4 NPS	4, 6 NPS	4 in <sup>2</sup>	[M] 2.257 in	0.835 in	15-4000 psi	Water	UV
4 NPS	6 NPS	4.822 in <sup>2</sup>	[N] 2.478 in	0.917 in	15-4000 psi	Water	UV
4-6 NPS	6, 8 NPS	7.087 in <sup>2</sup>	[P] 3.004 in	1.111 in	15-4000 psi	Water	UV
6 NPS	8 NPS	12.27 in <sup>2</sup>	[Q] 3.952 in	1.462 in	15-2000 psi	Water	UV
6-8 NPS	8, 10 NPS	17.78 in <sup>2</sup>	[R] 4.758 in	1.76 in	15-2000 psi	Water	UV
8 NPS	10 NPS	28.94 in <sup>2</sup>	[T] 6.07 in	2.246 in	15-2000 psi	Water	UV
10 NPS	14 NPS	49.02 in <sup>2</sup>	[V] 7.9 in	2.94 in	15-1400 psi	Water	UV

## Zeeco, Inc. (ZCO)

Broken Arrow, OK 74014 United States

### This Company Manufactures or Assembles:

Design Name: DA-BPV NBCert # 03317

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 11/22/2029

## Design Type

[Buckling Pin Non-reclosing Device] DA-BPV  
 Capacity Tests: Sec. UD at National Board Testing Lab on July 25, 2017  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 2.170 Unitless; Certification Provisions: Exceeds Lab Limits (Prev. CC 2397)  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Buckling Pressure  
 Flow Area Configuration: Nozzle/Full Lift  
 Designed by: Zeeco, Inc. {ZCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
6 NPS	6 NPS	28.274 in <sup>2</sup>	6 in	3.57 in	15-50 psi		UD
8 NPS	8 NPS	48.955 in <sup>2</sup>	7.895 in	4.69 in	15-50 psi		UD
10 NPS	10 NPS	77.21 in <sup>2</sup>	9.915 in	5.89 in	15-50 psi		UD
12 NPS	12 NPS	110.66 in <sup>2</sup>	11.87 in	7.06 in	15-50 psi		UD
14 NPS	14 NPS	134.99 in <sup>2</sup>	13.11 in	7.8 in	15-50 psi		UD
16 NPS	16 NPS	178.37 in <sup>2</sup>	15.07 in	8.97 in	15-50 psi		UD
18 NPS	18 NPS	228.72 in <sup>2</sup>	17.065 in	10.15 in	15-50 psi		UD
20 NPS	20 NPS	284.87 in <sup>2</sup>	19.045 in	11.32 in	15-50 psi		UD
22 NPS	22 NPS	343.4 in <sup>2</sup>	20.91 in	12.44 in	15-50 psi		UD
24 NPS	24 NPS	406.67 in <sup>2</sup>	22.755 in	13.53 in	15-50 psi		UD
26 NPS	26 NPS	480.7 in <sup>2</sup>	24.74 in	14.71 in	15-50 psi		UD
28 NPS	28 NPS	559.9 in <sup>2</sup>	26.7 in	15.88 in	15-50 psi		UD
30 NPS	30 NPS	646.47 in <sup>2</sup>	28.69 in	17.06 in	15-50 psi		UD
32 NPS	32 NPS	739.5 in <sup>2</sup>	30.66 in	18.23 in	15-50 psi		UD
34 NPS	34 NPS	836 in <sup>2</sup>	32.53 in	19.4 in	15-50 psi		UD
36 NPS	36 NPS	939.6 in <sup>2</sup>	34.59 in	20.57 in	15-50 psi		UD
38 NPS	38 NPS	1049 in <sup>2</sup>	36.55 in	21.74 in	15-50 psi		UD
40 NPS	40 NPS	1168 in <sup>2</sup>	38.56 in	22.93 in	15-50 psi		UD
42 NPS	42 NPS	1290 in <sup>2</sup>	40.53 in	24.1 in	15-50 psi		UD
44 NPS	44 NPS	1420 in <sup>2</sup>	42.53 in	25.3 in	15-50 psi		UD
46 NPS	46 NPS	1555 in <sup>2</sup>	44.5 in	26.46 in	15-50 psi		UD
48 NPS	48 NPS	1698 in <sup>2</sup>	46.5 in	27.63 in	15-50 psi		UD
82 NPS	82 NPS	5014 in <sup>2</sup>	47.51 in	47.51 in	15-50 psi		UD
50 NPS	50 NPS	1841 in <sup>2</sup>	48.42 in	28.79 in	15-50 psi		UD
52 NPS	52 NPS	1994 in <sup>2</sup>	50.39 in	29.97 in	15-50 psi		UD
54 NPS	54 NPS	2154 in <sup>2</sup>	52.37 in	31.14 in	15-50 psi		UD
56 NPS	56 NPS	2319 in <sup>2</sup>	54.34 in	32.31 in	15-50 psi		UD
58 NPS	58 NPS	2490 in <sup>2</sup>	56.31 in	33.48 in	15-50 psi		UD
60 NPS	60 NPS	2666 in <sup>2</sup>	58.26 in	34.65 in	15-50 psi		UD
62 NPS	62 NPS	2849 in <sup>2</sup>	60.23 in	35.82 in	15-50 psi		UD
64 NPS	64 NPS	3039 in <sup>2</sup>	62.2 in	36.99 in	15-50 psi		UD
66 NPS	66 NPS	3234 in <sup>2</sup>	64.17 in	38.16 in	15-50 psi		UD
68 NPS	68 NPS	3435 in <sup>2</sup>	66.14 in	39.33 in	15-50 psi		UD
70 NPS	70 NPS	3642 in <sup>2</sup>	68.1 in	40.5 in	15-50 psi		UD



72 NPS	72 NPS	3856 in <sup>2</sup>	70.07 in	41.67 in	15-50 psi	UD
74 NPS	74 NPS	4076 in <sup>2</sup>	72.04 in	42.83 in	15-50 psi	UD
76 NPS	76 NPS	4301 in <sup>2</sup>	74 in	44 in	15-50 psi	UD
78 NPS	78 NPS	4533 in <sup>2</sup>	75.97 in	45.17 in	15-50 psi	UD
80 NPS	80 NPS	4770 in <sup>2</sup>	77.94 in	46.34 in	15-50 psi	UD
84 NPS	84 NPS	5246 in <sup>2</sup>	81.78 in	48.68 in	15-50 psi	UD
86 NPS	86 NPS	5520 in <sup>2</sup>	83.84 in	49.85 in	15-50 psi	UD
90 NPS	90 NPS	6050 in <sup>2</sup>	87.77 in	52.19 in	15-50 psi	UD
92 NPS	92 NPS	6325 in <sup>2</sup>	89.74 in	53.36 in	15-50 psi	UD
94 NPS	94 NPS	6605 in <sup>2</sup>	91.7 in	54.53 in	15-50 psi	UD
96 NPS	96 NPS	6891 in <sup>2</sup>	93.67 in	55.7 in	15-50 psi	UD
88 NPS	88 NPS	5782 in <sup>2</sup>	858 in	51.02 in	15-50 psi	UD

Design Name: SL-BFV

NBCert # 03328

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	02/01/2028

#### Design Type

[Spring Loaded Non-Reclosing Pressure Relief Device] SL-BFV  
Capacity Tests: Sec. UD at National Board Testing Lab on February 1, 2022  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 9.400 Unitless; Certification Provisions: Exceeds Lab Limits (Prev. CC 2397)  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Pop  
Flow Area Configuration: MNFA  
Designed by: Zeeco, Inc. {ZCO}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
10 NPS	10 NPS	46.65 in <sup>2</sup>			15-500 psi		UD
10 NPS	10 NPS	51.15 in <sup>2</sup>			15-290 psi		UD
12 NPS	12 NPS	74.77 in <sup>2</sup>			15-290 psi		UD
12 NPS	12 NPS	69.22 in <sup>2</sup>			15-500 psi		UD
14 NPS	14 NPS	85.19 in <sup>2</sup>			15-500 psi		UD
14 NPS	14 NPS	88.04 in <sup>2</sup>			15-290 psi		UD
16 NPS	16 NPS	115.83 in <sup>2</sup>			15-500 psi		UD
16 NPS	16 NPS	117.77 in <sup>2</sup>			15-290 psi		UD
18 NPS	18 NPS	153.12 in <sup>2</sup>			15-290 psi		UD
18 NPS	18 NPS	140.14 in <sup>2</sup>			15-500 psi		UD
20 NPS	20 NPS	178.29 in <sup>2</sup>			15-500 psi		UD
20 NPS	20 NPS	237.05 in <sup>2</sup>			15-290 psi		UD
22 NPS	22 NPS	221.7 in <sup>2</sup>			15-500 psi		UD
22 NPS	22 NPS	237.05 in <sup>2</sup>			15-290 psi		UD
24 NPS	24 NPS	266.3 in <sup>2</sup>			15-500 psi		UD
24 NPS	24 NPS	285.04 in <sup>2</sup>			15-290 psi		UD
26 NPS	26 NPS	334.5 in <sup>2</sup>			15-290 psi		UD

26 NPS	26 NPS	320.41 in <sup>2</sup>	15-500 psi	UD
28 NPS	28 NPS	374.89 in <sup>2</sup>	15-500 psi	UD
28 NPS	28 NPS	393.01 in <sup>2</sup>	15-290 psi	UD
30 NPS	30 NPS	441.34 in <sup>2</sup>	15-500 psi	UD
30 NPS	30 NPS	452.4 in <sup>2</sup>	15-290 psi	UD
32 NPS	32 NPS	514.73 in <sup>2</sup>	15-290 psi	UD
32 NPS	32 NPS	512.32 in <sup>2</sup>	15-500 psi	UD
34 NPS	34 NPS	543.55 in <sup>2</sup>	15-500 psi	UD
34 NPS	34 NPS	581.09 in <sup>2</sup>	15-290 psi	UD
36 NPS	36 NPS	608.1 in <sup>2</sup>	15-500 psi	UD
36 NPS	36 NPS	656 in <sup>2</sup>	15-290 psi	UD
38 NPS	38 NPS	730.91 in <sup>2</sup>	15-290 psi	UD
38 NPS	38 NPS	686.4 in <sup>2</sup>	15-500 psi	UD
40 NPS	40 NPS	765.29 in <sup>2</sup>	15-500 psi	UD
40 NPS	40 NPS	809.87 in <sup>2</sup>	15-290 psi	UD
42 NPS	42 NPS	854.49 in <sup>2</sup>	15-500 psi	UD
42 NPS	42 NPS	892.3 in <sup>2</sup>	15-290 psi	UD
44 NPS	44 NPS	958.27 in <sup>2</sup>	15-500 psi	UD
44 NPS	44 NPS	1005.67 in <sup>2</sup>	15-290 psi	UD
46 NPS	46 NPS	1045 in <sup>2</sup>	15-500 psi	UD
46 NPS	46 NPS	1101.2 in <sup>2</sup>	15-290 psi	UD
48 NPS	48 NPS	1134.03 in <sup>2</sup>	15-500 psi	UD
48 NPS	48 NPS	1196.34 in <sup>2</sup>	15-290 psi	UD
50 NPS	50 NPS	1248.73 in <sup>2</sup>	15-500 psi	UD
50 NPS	50 NPS	1305.45 in <sup>2</sup>	15-290 psi	UD
52 NPS	52 NPS	1414.15 in <sup>2</sup>	15-290 psi	UD
52 NPS	52 NPS	1357.84 in <sup>2</sup>	15-500 psi	UD
54 NPS	54 NPS	1525.02 in <sup>2</sup>	15-290 psi	UD
54 NPS	54 NPS	1505.43 in <sup>2</sup>	15-500 psi	UD
56 NPS	56 NPS	1596.05 in <sup>2</sup>	15-500 psi	UD
56 NPS	56 NPS	1640.08 in <sup>2</sup>	15-290 psi	UD
58 NPS	58 NPS	1759.32 in <sup>2</sup>	15-290 psi	UD
58 NPS	58 NPS	1703.91 in <sup>2</sup>	15-500 psi	UD
6 NPS	6 NPS	16.47 in <sup>2</sup>	15-290 psi	UD
6 NPS	6 NPS	15.95 in <sup>2</sup>	15-500 psi	UD
60 NPS	60 NPS	1851.37 in <sup>2</sup>	15-500 psi	UD
60 NPS	60 NPS	1929.87 in <sup>2</sup>	15-290 psi	UD
62 NPS	62 NPS	1991.67 in <sup>2</sup>	15-500 psi	UD
62 NPS	62 NPS	2060.68 in <sup>2</sup>	15-290 psi	UD
64 NPS	64 NPS	2122.77 in <sup>2</sup>	15-500 psi	UD
64 NPS	64 NPS	2195.77 in <sup>2</sup>	15-290 psi	UD

66 NPS	66 NPS	2234.01 in <sup>2</sup>	15-500 psi	UD
66 NPS	66 NPS	2335.15 in <sup>2</sup>	15-290 psi	UD
68 NPS	68 NPS	2378.42 in <sup>2</sup>	15-500 psi	UD
68 NPS	68 NPS	2490.07 in <sup>2</sup>	15-290 psi	UD
70 NPS	70 NPS	2540.99 in <sup>2</sup>	15-500 psi	UD
70 NPS	70 NPS	2637.08 in <sup>2</sup>	15-290 psi	UD
72 NPS	72 NPS	2799.08 in <sup>2</sup>	15-290 psi	UD
72 NPS	72 NPS	2719.9 in <sup>2</sup>	15-500 psi	UD
74 NPS	74 NPS	2802.81 in <sup>2</sup>	15-500 psi	UD
74 NPS	74 NPS	2945.13 in <sup>2</sup>	15-290 psi	UD
76 NPS	76 NPS	3004.82 in <sup>2</sup>	15-500 psi	UD
76 NPS	76 NPS	3156.9 in <sup>2</sup>	15-290 psi	UD
78 NPS	78 NPS	3327.88 in <sup>2</sup>	15-290 psi	UD
78 NPS	78 NPS	3167.57 in <sup>2</sup>	15-500 psi	UD
8 NPS	8 NPS	32.37 in <sup>2</sup>	15-290 psi	UD
8 NPS	8 NPS	30.88 in <sup>2</sup>	15-500 psi	UD
80 NPS	80 NPS	3334.62 in <sup>2</sup>	15-500 psi	UD
80 NPS	80 NPS	3503.39 in <sup>2</sup>	15-290 psi	UD
82 NPS	82 NPS	3499.46 in <sup>2</sup>	15-500 psi	UD
82 NPS	82 NPS	3676.57 in <sup>2</sup>	15-290 psi	UD
84 NPS	84 NPS	3674.7 in <sup>2</sup>	15-500 psi	UD
84 NPS	84 NPS	3860.68 in <sup>2</sup>	15-290 psi	UD
86 NPS	86 NPS	3854.13 in <sup>2</sup>	15-500 psi	UD
86 NPS	86 NPS	4049.19 in <sup>2</sup>	15-290 psi	UD
88 NPS	88 NPS	4037.73 in <sup>2</sup>	15-500 psi	UD
88 NPS	88 NPS	4242.08 in <sup>2</sup>	15-290 psi	UD
90 NPS	90 NPS	4225.47 in <sup>2</sup>	15-500 psi	UD
90 NPS	90 NPS	4439.33 in <sup>2</sup>	15-290 psi	UD
92 NPS	92 NPS	4640.91 in <sup>2</sup>	15-290 psi	UD
92 NPS	92 NPS	4417.34 in <sup>2</sup>	15-500 psi	UD
94 NPS	94 NPS	4613.29 in <sup>2</sup>	15-500 psi	UD
94 NPS	94 NPS	4846.78 in <sup>2</sup>	15-290 psi	UD
96 NPS	96 NPS	4813.32 in <sup>2</sup>	15-500 psi	UD
96 NPS	96 NPS	5056.93 in <sup>2</sup>	15-290 psi	UD

**ZETKAMA Sp. z o.o. (ZTK)**

Nameplate Abbreviation: ZETKAMA

41-209 Sosnowiec, Poland

**This Company Manufactures or Assembles:**

Design Name: 600			NBCert # 02776				
Manufacturer/Assembler		Designators		Expiration Date			
Manufacturer		UV		04/18/2030			
Design Type							
[Relief Valve] 600 HolderDesignation: Capacity Tests: Sec. UV at National Board Testing Lab {unknown test date} Method of Establishing Relieving Capacity: Flow Capacity, K Certified Value: 0.718 Unitless; (alternate medium): 0.000 Media - Test: Liquid; Certified: Liquid Set Pressure Definition: First Steady Stream Blowdown Characteristics: Fixed Flow Area Configuration: Nozzle/Full Lift Designed by: ZETKAMA Sp. z o.o. {ZTK}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS	2 NPS	0.175 in²	[D] 0.472 in	0.118 in	15-1480 psi	Water	UV
1 NPS	2 NPS	0.206 in²	[E] 0.512 in	0.158 in	15-1480 psi	Water	UV
1.5 NPS	2 NPS	0.352 in²	[F] 0.669 in	0.13 in	15-1480 psi	Water	UV
1.5 NPS	3 NPS	0.589 in²	[G] 0.866 in	0.295 in	15-1480 psi	Water	UV
1.5-2 NPS	3 NPS	1.024 in²	[H] 1.142 in	0.472 in	15-1480 psi	Water	UV
2-3 NPS	3, 4 NPS	1.491 in²	[J] 1.378 in	0.472 in	15-1480 psi	Water	UV
3 NPS	4 NPS	2.046 in²	[K] 1.614 in	0.551 in	15-1480 psi	Water	UV
3-4 NPS	4, 6 NPS	3.043 in²	[L] 1.969 in	0.827 in	15-1480 psi	Water	UV
4 NPS	6 NPS	3.75 in²	[M] 2.185 in	0.709 in	15-1480 psi	Water	UV
4 NPS	6 NPS	4.909 in²	[N] 2.5 in	0.984 in	15-726 psi	Water	UV
4 NPS	6 NPS	7.032 in²	[P] 2.992 in	1.417 in	15-525 psi	Water	UV
6 NPS	8 NPS	12.174 in²	[Q] 3.937 in	1.575 in	15-300 psi	Water	UV
6 NPS	8, 10 NPS	17.824 in²	[R] 4.764 in	2.205 in	15-230 psi	Water	UV
8 NPS	10 NPS	28.126 in²	[T] 5.984 in	2.3622 in	15-300 psi	Water	UV

Zhejiang Chaochao Safety Valve Manufacturing Co., Ltd. (CXI)	Nameplate Abbreviation: Chaochao
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Xiaolin Town, Cixi City, 315321People's Republic of China

### This Company Manufactures or Assembles:

Design Name: AX2.II			NBCert # 12755				
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UV		05/03/2029		

**Design Type**

[Safety Relief Valve] AX2.II  
Capacity Tests: Sec. UV at National Board Testing Lab on February 2, 2005  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.310 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Zhejiang Chaochao Safety Valve Manufacturing Co., Ltd. {CXI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.25 NPS		12.5 mm <sup>2</sup>	4 mm	1 mm	75-250 psi	Air	UV

Design Name:	CAGU24	NBCert #	12867
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

04/12/2029

**Design Type**

[Safety Relief Valve] CAGU24  
Capacity Tests: Sec. UV at National Board Testing Lab on November 30, 2016  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.700 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Zhejiang Chaochao Safety Valve Manufacturing Co., Ltd. {CXI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.25 NPS	Side NPS	0.048 in <sup>2</sup>	0.248 in	0.062 in	50-350 psi	Air	UV

Design Name:	CAX3.11-2.5	NBCert #	12823
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/28/2027

**Design Type**

[Safety Relief Valve] CAX3.11-2.5  
Capacity Tests: Sec. UV at National Board Testing Lab on July 22, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 0.873 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Zhejiang Chaochao Safety Valve Manufacturing Co., Ltd. {CXI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125-0.375 NPS		0.06 in <sup>2</sup>	0.276 in		75-250 psi	Air	UV

Design Name:	CAXL4-2.5	NBCert #	12812
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/28/2027

**Design Type**

[Safety Relief Valve] CAXL4-2.5  
Capacity Tests: Sec. UV at National Board Testing Lab on July 22, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 1.837 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Zhejiang Chaochao Safety Valve Manufacturing Co., Ltd. {CXI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5-0.5 NPS		0.122 in <sup>2</sup>	0.394 in		75-250 psi	Air	UV

Design Name:	CAXL6-2.5	NBCert #	12834
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/28/2027

**Design Type**

[Safety Relief Valve] CAXL6-2.5  
Capacity Tests: Sec. UV at National Board Testing Lab on July 22, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 3.254 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Zhejiang Chaochao Safety Valve Manufacturing Co., Ltd. {CXI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.75-0.75 NPS		0.221 in <sup>2</sup>	[E] 0.531 in <sup>2</sup>		15-250 psi	Air	UV

Design Name:	CAXL8.II - 2.5	NBCert #	12856
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**Manufacturer/Assembler****Designators****Expiration Date**

Manufacturer

UV

01/28/2027

**Design Type**

[Safety Relief Valve] CAXL8.II - 2.5  
Capacity Tests: Sec. UV at National Board Testing Lab on October 8, 2015  
Method of Establishing Relieving Capacity: Flow Capacity, 4-Device Method  
Certified Value: 7.212 SCFM/PSIA  
Media - Test: Air/Gas; Certified: Air, Gas  
Set Pressure Definition: Pop  
Blowdown Characteristics: Fixed  
Flow Area Configuration: Nozzle/Full Lift  
Designed by: Zhejiang Chaochao Safety Valve Manufacturing Co., Ltd. {CXI}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1-1 NPS		0.439 in <sup>2</sup>	0.748 in	0.187 in	75-250 psi	Air	UV

Burlington, ON L7L 5R8Canada

**This Company Manufactures or Assembles:**

Design Name: CWA-0231-XX Series		NBCert #	82088
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	07/28/2029
Design Type			
[Rupture Disk Device] CWA-0231-XX Series HolderDesignation: N/A - Integral Welded Assembly Capacity Tests: Sec. UD at National Board Testing Lab on March 6, 2023 Method of Establishing Relieving Capacity: Flow Resistance, 1 Size, Krg Certified Value:23.380 Unitless; (alternate medium): 0.000 Media - Test: Air/Gas; Certified: Compressible (Krg) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: ZOOK Canada Inc. {PEL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.12 in <sup>2</sup>			1050-3000 psi		UD

Design Name: FAX-L, SFAZ-L and SFA-II-L and SFA-L Series Rupture Disks		NBCert #	82189
Manufacturer/Assembler		Designators	Expiration Date
Manufacturer		UD	09/30/2027
Design Type			
[Rupture Disk Device] FAX-L, SFAZ-L and SFA-II-L and SFA-L Series Rupture Disks HolderDesignation: FAH, FAHI, UH, UHZ, SF7A, and FS1U - FS6U Series Capacity Tests: Sec. UD at National Board Testing Lab on June 26, 2015 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl Certified Value: 1.780 Unitless Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: ZOOK Canada Inc. {PEL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.3 in <sup>2</sup>			200-6000 psi	Water	UD
0.75 NPS		0.53 in <sup>2</sup>			125-6000 psi	Water	UD
1 NPS		0.86 in <sup>2</sup>			79-6000 psi	Water	UD
1.5 NPS		2.04 in <sup>2</sup>			73-6000 psi	Water	UD
10 NPS		78.85 in <sup>2</sup>			22-1480 psi	Water	UD
12 NPS		113.1 in <sup>2</sup>			20-740 psi	Water	UD
14 NPS		137.89 in <sup>2</sup>			17-500 psi	Water	UD
16 NPS		182.65 in <sup>2</sup>			15-285 psi	Water	UD
18 NPS		233.71 in <sup>2</sup>			15-285 psi	Water	UD

2 NPS	3.36 in <sup>2</sup>		61-3600 psi	Water	UD
20 NPS	291.04 in <sup>2</sup>		15-285 psi	Water	UD
24 NPS	424.56 in <sup>2</sup>		15-285 psi	Water	UD
3 NPS	7.39 in <sup>2</sup>		40-3600 psi	Water	UD
4 NPS	12.73 in <sup>2</sup>		32-3000 psi	Water	UD
6 NPS	28.89 in <sup>2</sup>		27-2200 psi	Water	UD
8 NPS	50.03 in <sup>2</sup>		25-1480 psi	Water	UD
2.5 NPS	4.79 in <sup>2</sup>	0 in	45-3600 psi		UD

Design Name:	RA4, RLP	NBCert #	82077
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	06/25/2025

#### Design Type

[Rupture Disk Device] RA4, RLP  
HolderDesignation: RLP Series, RAH Series  
Capacity Tests: Sec. UD at National Board Testing Lab on May 5, 2003  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 1.630 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			13-40 psi		UD
1.5 NPS		1.63 in <sup>2</sup>			9-25 psi		UD
10 NPS		50.78 in <sup>2</sup>			2-14 psi		UD
12 NPS		71.69 in <sup>2</sup>			2-14 psi		UD
2 NPS		2.78 in <sup>2</sup>			6-25 psi		UD
3 NPS		5.69 in <sup>2</sup>			4-25 psi		UD
4 NPS		9.51 in <sup>2</sup>			3-20 psi		UD
6 NPS		19.46 in <sup>2</sup>			2-18 psi		UD
8 NPS		33.28 in <sup>2</sup>			2-18 psi		UD

Design Name:	RA6 (Air/Gas)	NBCert #	82123
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/01/2030

#### Design Type

[Rupture Disk Device] RA6 (Air/Gas)  
HolderDesignation: RAH Series, CWA  
Capacity Tests: Sec. UD at National Board Testing Lab on April 14, 2008  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 0.800 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Blowdown Characteristics: Fixed  
Flow Area Configuration: MNFA  
Designed by: ZOOK Canada Inc. {PEL}



Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			25.8-144 psi		UD
1.5 NPS		2 in <sup>2</sup>			20-120 psi		UD
10 NPS		70.52 in <sup>2</sup>			12-30 psi		UD
12 NPS		98.33 in <sup>2</sup>			12-26 psi		UD
14 NPS		124.7 in <sup>2</sup>			9-24 psi		UD
16 NPS		162.9 in <sup>2</sup>			7-22 psi		UD
18 NPS		206.1 in <sup>2</sup>			6-21 psi		UD
2 NPS		3.36 in <sup>2</sup>			18-100 psi		UD
2.5 NPS		4.79 in <sup>2</sup>			17-83 psi		UD
20 NPS		254.5 in <sup>2</sup>			5-19 psi		UD
24 NPS		366.5 in <sup>2</sup>			5-18 psi		UD
3 NPS		7.25 in <sup>2</sup>			16-65 psi		UD
4 NPS		12.53 in <sup>2</sup>			14-55 psi		UD
6 NPS		26.59 in <sup>2</sup>			12-45 psi		UD
8 NPS		45.48 in <sup>2</sup>			12-35 psi		UD

Design Name: RA6 (Liquid)	NBCert # 82112
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	07/23/2025

### Design Type

[Rupture Disk Device] RA6 (Liquid)  
HolderDesignation: RAH Series, CWA  
Capacity Tests: Sec. UD at National Board Testing Lab on September 26, 2008  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
Certified Value: 0.980 Unitless  
Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			22-200 psi		UD
1.5 NPS		2 in <sup>2</sup>			20-167 psi		UD
10 NPS		70.52 in <sup>2</sup>			12-46 psi		UD
12 NPS		98.33 in <sup>2</sup>			12-38 psi		UD
14 NPS		124.7 in <sup>2</sup>			9-38 psi		UD
16 NPS		162.9 in <sup>2</sup>			7-40 psi		UD
18 NPS		206.1 in <sup>2</sup>			6-40 psi		UD
2 NPS		3.36 in <sup>2</sup>			18-118 psi		UD
2.5 NPS		4.79 in <sup>2</sup>			17-93 psi		UD
20 NPS		254.5 in <sup>2</sup>			5-38 psi		UD
24 NPS		366.5 in <sup>2</sup>			5-26 psi		UD
3 NPS		7.25 in <sup>2</sup>			16-68 psi		UD

4 NPS	12.53 in²	14-69 psi	UD
6 NPS	26.59 in²	12-67 psi	UD
8 NPS	45.48 in²	12-54 psi	UD

Design Name:	RA8 (Gas)	NBCert #	82145
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	10/18/2028
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Design Type
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[Rupture Disk Device] RA8 (Gas)  
 HolderDesignation: RAH Series, CWA  
 Capacity Tests: Sec. UD at National Board Testing Lab on October 1, 2007  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.590 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in²			144-720 psi		UD
1.5 NPS		2 in²			120-720 psi		UD
10 NPS		70.52 in²			30-180 psi		UD
12 NPS		98.33 in²			26-155 psi		UD
14 NPS		124.7 in²			24-125 psi		UD
16 NPS		162.9 in²			22-100 psi		UD
18 NPS		206.1 in²			21-85 psi		UD
2 NPS		3.36 in²			100-720 psi		UD
2.5 NPS		4.79 in²			83-720 psi		UD
20 NPS		254.5 in²			19-75 psi		UD
24 NPS		366.5 in²			18-70 psi		UD
3 NPS		7.25 in²			65-720 psi		UD
4 NPS		12.53 in²			55-520 psi		UD
6 NPS		26.59 in²			45-285 psi		UD
8 NPS		45.48 in²			35-210 psi		UD

Design Name:	RA8 (Liquid)	NBCert #	82134
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	07/23/2025
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Design Type
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[Rupture Disk Device] RA8 (Liquid)  
 HolderDesignation: RAH Series, CWA  
 Capacity Tests: Sec. UD at National Board Testing Lab on April 16, 2008  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value: 1.160 Unitless  
 Media - Test: Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			200-1000 psi		UD
1.5 NPS		2 in <sup>2</sup>			167-1000 psi		UD
10 NPS		70.52 in <sup>2</sup>			46-275 psi		UD
12 NPS		98.33 in <sup>2</sup>			38-225 psi		UD
14 NPS		124.7 in <sup>2</sup>			38-200 psi		UD
16 NPS		162.9 in <sup>2</sup>			40-180 psi		UD
18 NPS		206.1 in <sup>2</sup>			40-160 psi		UD
2 NPS		3.36 in <sup>2</sup>			118-850 psi		UD
2.5 NPS		4.79 in <sup>2</sup>			93-800 psi		UD
20 NPS		254.5 in <sup>2</sup>			38-150 psi		UD
24 NPS		366.5 in <sup>2</sup>			26-100 psi		UD
3 NPS		7.25 in <sup>2</sup>			68-750 psi		UD
4 NPS		12.53 in <sup>2</sup>			69-650 psi		UD
6 NPS		26.5 in <sup>2</sup>			67-425 psi		UD
8 NPS		45.48 in <sup>2</sup>			54-325 psi		UD

Design Name:	RAUS (Air/Gas)	NBCert #	82167
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	07/23/2025

Design Type
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[Rupture Disk Device] RAUS (Air/Gas)  
HolderDesignation: RAUS for installation in standard sanitary O.D. tube fittings, RAUS-CWA  
Capacity Tests: Sec. UD at National Board Testing Lab on January 30, 2009  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value:11.670 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.36 in <sup>2</sup>			83-300 psi		UD
1.5 NPS		0.94 in <sup>2</sup>			27-250 psi		UD
2 NPS		1.79 in <sup>2</sup>			24-180 psi		UD
3 NPS		4.34 in <sup>2</sup>			20-120 psi		UD
4 NPS		7.8 in <sup>2</sup>			18-80 psi		UD

Design Name:	RAUS (Liquid)	NBCert #	82156
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	04/17/2026

## Design Type

[Rupture Disk Device] RAUS (Liquid)  
 HolderDesignation: RAUS installation in standard sanitary O.D. tube fittings, RAUS-CWA  
 Capacity Tests: Sec. UD at National Board Testing Lab on January 30, 2009  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krl  
 Certified Value:11.670 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Incompressible (Krl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.36 in <sup>2</sup>			83-300 psi		UD
1.5 NPS		0.94 in <sup>2</sup>			27-250 psi		UD
2 NPS		1.79 in <sup>2</sup>			24-180 psi		UD
3 NPS		4.34 in <sup>2</sup>			20-120 psi		UD
4 NPS		7.8 in <sup>2</sup>			18-80 psi		UD

Design Name: R-D-R Series NBCert # 82022

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	04/26/2026

## Design Type

[Rupture Disk Device] R-D-R Series  
 HolderDesignation: 1 - 9, 7A, 1U - 6U, ST  
 Capacity Tests: Sec. UD at National Board Testing Lab on August 28, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 2.400 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.17 in <sup>2</sup>			60-6000 psi		UD
0.75 NPS		0.44 in <sup>2</sup>			48-6000 psi		UD
1 NPS		0.71 in <sup>2</sup>			30-6000 psi		UD
1.5 NPS		1.54 in <sup>2</sup>			20-3000 psi		UD
10 NPS		78.54 in <sup>2</sup>			15-750 psi		UD
12 NPS		113.1 in <sup>2</sup>			15-750 psi		UD
14 NPS		137.9 in <sup>2</sup>			15-750 psi		UD
16 NPS		182.7 in <sup>2</sup>			15-500 psi		UD
18 NPS		233.7 in <sup>2</sup>			15-475 psi		UD
2 NPS		3.36 in <sup>2</sup>			16-3000 psi		UD
20 NPS		291 in <sup>2</sup>			15-450 psi		UD
24 NPS		424.6 in <sup>2</sup>			15-275 psi		UD
3 NPS		7.39 in <sup>2</sup>			15-3000 psi		UD
4 NPS		12.73 in <sup>2</sup>			15-3000 psi		UD
6 NPS		28.27 in <sup>2</sup>			15-2160 psi		UD
8 NPS		50 in <sup>2</sup>			15-1440 psi		UD

Design Name: R-D-VR, R-TLDV-R Series				NBCert # 82033			
Manufacturer/Assembler			Designators		Expiration Date		
Manufacturer			UD		04/26/2026		
Design Type							
[Rupture Disk Device] R-D-VR, R-TLDV-R Series HolderDesignation: 1 - 9, 7A, 1U - 6U Capacity Tests: Sec. UD at National Board Testing Lab on October 30, 1998 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl Certified Value: 6.210 Unitless Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: ZOOK Canada Inc. {PEL}							
Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.13 in²			60-6000 psi		UD
0.75 NPS		0.35 in²			48-6000 psi		UD
1 NPS		0.51 in²			30-6000 psi		UD
1.5 NPS		1.05 in²			20-3000 psi		UD
10 NPS		57.96 in²			15-750 psi		UD
12 NPS		85.54 in²			15-750 psi		UD
14 NPS		110.2 in²			15-750 psi		UD
16 NPS		146.2 in²			15-500 psi		UD
18 NPS		197 in²			15-475 psi		UD
2 NPS		3.19 in²			16-3000 psi		UD
20 NPS		240.7 in²			15-450 psi		UD
24 NPS		348.9 in²			15-275 psi		UD
3 NPS		7.02 in²			15-3000 psi		UD
4 NPS		12.18 in²			15-3000 psi		UD
6 NPS		21.76 in²			15-2160 psi		UD
8 NPS		35.92 in²			15-1440 psi		UD

Design Name: RL-PB-LVR Series		NBCert #	82000
Manufacturer/Assembler	Designators	Expiration Date	
Manufacturer	UD	04/26/2026	
Design Type			
[Rupture Disk Device] RL-PB-LVR Series HolderDesignation: 1 - 9, 7A, 1U - 6U, ST Capacity Tests: Sec. UD at National Board Testing Lab on November 25, 1998 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl Certified Value: 5.460 Unitless Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl) Set Pressure Definition: Burst Pressure Flow Area Configuration: MNFA Designed by: ZOOK Canada Inc. {PEL}			

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.13 in <sup>2</sup>			170-30000 psi		UD
0.75 NPS		0.35 in <sup>2</sup>			110-15000 psi		UD
1 NPS		0.51 in <sup>2</sup>			91-12000 psi		UD
1.5 NPS		1.05 in <sup>2</sup>			59-6000 psi		UD
10 NPS		57.96 in <sup>2</sup>			15-1400 psi		UD
12 NPS		85.54 in <sup>2</sup>			15-1000 psi		UD
14 NPS		110.2 in <sup>2</sup>			15-750 psi		UD
16 NPS		146.2 in <sup>2</sup>			15-500 psi		UD
18 NPS		197 in <sup>2</sup>			15-475 psi		UD
2 NPS		3.19 in <sup>2</sup>			36-6000 psi		UD
20 NPS		240.7 in <sup>2</sup>			15-450 psi		UD
24 NPS		348.9 in <sup>2</sup>			15-275 psi		UD
3 NPS		7.02 in <sup>2</sup>			25-6000 psi		UD
4 NPS		12.18 in <sup>2</sup>			19-6000 psi		UD
6 NPS		21.76 in <sup>2</sup>			15-3600 psi		UD
8 NPS		35.92 in <sup>2</sup>			15-2100 psi		UD

Design Name:	R-PB-R	NBCert #	82011
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer	UD	12/21/2026
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#### Design Type

[Rupture Disk Device] R-PB-R  
HolderDesignation: 1 - 9, 7A, 1U - 6U, ST  
Capacity Tests: Sec. UD at National Board Testing Lab on January 27, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.920 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.25 NPS		0.05 in <sup>2</sup>			180-80000 psi		UD
0.5 NPS		0.17 in <sup>2</sup>			170-30000 psi		UD
0.75 NPS		0.44 in <sup>2</sup>			110-15000 psi		UD
1 NPS		0.71 in <sup>2</sup>			68-12000 psi		UD
1.5 NPS		1.54 in <sup>2</sup>			27-6000 psi		UD
10 NPS		78.54 in <sup>2</sup>			15-1400 psi		UD
12 NPS		113.1 in <sup>2</sup>			15-1000 psi		UD
14 NPS		137.9 in <sup>2</sup>			15-750 psi		UD
16 NPS		182.7 in <sup>2</sup>			15-500 psi		UD
18 NPS		233.7 in <sup>2</sup>			15-475 psi		UD
2 NPS		3.36 in <sup>2</sup>			16-6000 psi		UD

20 NPS	291 in <sup>2</sup>	15-450 psi	UD
24 NPS	424.6 in <sup>2</sup>	15-275 psi	UD
3 NPS	7.39 in <sup>2</sup>	25-6000 psi	UD
4 NPS	12.73 in <sup>2</sup>	19-6000 psi	UD
6 NPS	28.27 in <sup>2</sup>	15-3600 psi	UD
8 NPS	50.01 in <sup>2</sup>	15-2100 psi	UD

Design Name:	SB90-L Series	NBCert #	82055
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 04/27/2026

#### Design Type

[Rupture Disk Device] SB90-L Series  
HolderDesignation: SB7, SB7A  
Capacity Tests: Sec. UD at National Board Testing Lab on December 5, 1998  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
Certified Value: 3.490 Unitless  
Media - Test: Air/Gas; Certified: Compressible (Krg)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.71 in <sup>2</sup>			90-1800 psi		UD
1.5 NPS		1.59 in <sup>2</sup>			77-1700 psi		UD
10 NPS		67.2 in <sup>2</sup>			15-800 psi		UD
12 NPS		97.59 in <sup>2</sup>			15-800 psi		UD
14 NPS		119.5 in <sup>2</sup>			15-700 psi		UD
16 NPS		159 in <sup>2</sup>			15-700 psi		UD
18 NPS		210.3 in <sup>2</sup>			15-700 psi		UD
2 NPS		2.83 in <sup>2</sup>			26-1600 psi		UD
20 NPS		261.9 in <sup>2</sup>			15-700 psi		UD
24 NPS		382.1 in <sup>2</sup>			15-700 psi		UD
3 NPS		6.36 in <sup>2</sup>			30-1500 psi		UD
4 NPS		11.31 in <sup>2</sup>			25-1500 psi		UD
6 NPS		25.45 in <sup>2</sup>			20-850 psi		UD
8 NPS		45.24 in <sup>2</sup>			15-800 psi		UD

Design Name:	SFAL & SFA-II-L Series	NBCert #	82044
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 04/27/2026

## Design Type

[Rupture Disk Device] SFAL & SFA-II-L Series  
 HolderDesignation: UH Series, FS1U-FS6U, FAH Series  
 Capacity Tests: Sec. UD at National Board Testing Lab on October 30, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 0.390 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.5 NPS		0.3 in <sup>2</sup>			200-6000 psi		UD
0.75 NPS		0.53 in <sup>2</sup>			125-6000 psi		UD
1 NPS		0.86 in <sup>2</sup>			79-6000 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			73-6000 psi		UD
10 NPS		78.85 in <sup>2</sup>			22-1480 psi		UD
12 NPS		113.1 in <sup>2</sup>			20-740 psi		UD
14 NPS		137.9 in <sup>2</sup>			17-500 psi		UD
16 NPS		182.7 in <sup>2</sup>			15-285 psi		UD
18 NPS		233.7 in <sup>2</sup>			15-285 psi		UD
2 NPS		3.36 in <sup>2</sup>			61-3600 psi		UD
20 NPS		291 in <sup>2</sup>			15-285 psi		UD
24 NPS		424.6 in <sup>2</sup>			15-285 psi		UD
3 NPS		7.39 in <sup>2</sup>			40-3600 psi		UD
4 NPS		12.73 in <sup>2</sup>			32-3000 psi		UD
6 NPS		28.89 in <sup>2</sup>			27-2200 psi		UD
8 NPS		50.03 in <sup>2</sup>			25-1480 psi		UD
2.5 NPS	NPS	4.79 in <sup>2</sup>	0 in	0 in	45-3600 psi		UD

Design Name: SRA, SRA-L, SRA-C, SRA-LC, SRA-X, RAX NBCert # 82101

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	10/27/2028

## Design Type

[Rupture Disk Device] SRA, SRA-L, SRA-C, SRA-LC, SRA-X, RAX  
 HolderDesignation: SRA Seires, RAH Series.  
 Capacity Tests: Sec. UD at National Board Testing Lab on August 28, 2002  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krg  
 Certified Value: 2.000 Unitless  
 Media - Test: Air/Gas; Certified: Compressible (Krg)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in <sup>2</sup>			92-3705 psi		UD
1.5 NPS		2.04 in <sup>2</sup>			81-3705 psi		UD
10 NPS		78.8 in <sup>2</sup>			30-700 psi		UD
12 NPS		112 in <sup>2</sup>			27-600 psi		UD



14 NPS	135 in <sup>2</sup>	25-500 psi	UD
16 NPS	177 in <sup>2</sup>	23-100 psi	UD
18 NPS	224 in <sup>2</sup>	22-92 psi	UD
2 NPS	3.36 in <sup>2</sup>	60-3705 psi	UD
20 NPS	278 in <sup>2</sup>	21-84 psi	UD
24 NPS	402 in <sup>2</sup>	20-70 psi	UD
3 NPS	7.39 in <sup>2</sup>	55-1480 psi	UD
4 NPS	12.73 in <sup>2</sup>	48-1480 psi	UD
6 NPS	28.89 in <sup>2</sup>	35-1480 psi	UD
8 NPS	50 in <sup>2</sup>	33-700 psi	UD
150 DN	DN	22.99 in <sup>2</sup> 0 in 0 in	45-1480 psi UD

Design Name:	Throwaway (TA), Screw Type (ST) Assemblies	NBCert #	82178
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 09/30/2027

#### Design Type

[Rupture Disk Device] Throwaway (TA), Screw Type (ST) Assemblies  
Capacity Tests: Sec. UD at National Board Testing Lab on July 31, 2015  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value:16.080 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Blowdown Characteristics: Fixed  
Flow Area Configuration: MNFA  
Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
0.125 NPS		0.01 in <sup>2</sup>			33-3000 psi		UD
0.25 NPS		0.04 in <sup>2</sup>			33-3000 psi		UD
0.375 NPS		0.1 in <sup>2</sup>			33-3000 psi		UD
0.5 NPS		0.13 in <sup>2</sup>			33-3000 psi		UD
0.75 NPS		0.29 in <sup>2</sup>			33-3000 psi		UD
1 NPS		0.47 in <sup>2</sup>			33-3000 psi		UD

Design Name:	URA-L, URA	NBCert #	82066
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Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 02/17/2027

#### Design Type

[Rupture Disk Device] URA-L, URA  
HolderDesignation: URA Series, CWA Welded Assembly  
Capacity Tests: Sec. UD at National Board Testing Lab on April 30, 2000  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 0.780 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.86 in²			22-1000 psi		UD
1.5 NPS		2 in²			20-900 psi		UD
10 NPS		70.52 in²			12-200 psi		UD
12 NPS		98.33 in²			12-150 psi		UD
14 NPS		124.7 in²			9-175 psi		UD
16 NPS		162.9 in²			7-85 psi		UD
18 NPS		206.1 in²			7-75 psi		UD
2 NPS		3.36 in²			18-850 psi		UD
20 NPS		254.5 in²			5-60 psi		UD
24 NPS		366.5 in²			5-50 psi		UD
3 NPS		7.25 in²			16-750 psi		UD
4 NPS		12.53 in²			14-650 psi		UD
6 NPS		26.59 in²			12-400 psi		UD
8 NPS		45.48 in²			12-250 psi		UD

Design Name: ZANITARY Series, CWA Series NBCert # 82202

Manufacturer/Assembler	Designators	Expiration Date
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Manufacturer UD 10/08/2025

#### Design Type

[Rupture Disk Device] ZANITARY Series, CWA Series  
Capacity Tests: Sec. UD at National Board Testing Lab on July 22, 2019  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 4.080 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: ZOOK Canada Inc. {PEL}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1.5 NPS		1.08 in²			15-300 psi	Air	UD
1.5 NPS		1.08 in²			15-300 psi	Water	UD
2 NPS		2.05 in²			10-180 psi	Air	UD
2 NPS		2.05 in²			10-180 psi	Water	UD
2.5 NPS		3.25 in²			10-120 psi	Air	UD
2.5 NPS		3.25 in²			10-120 psi	Water	UD
3 NPS		4.71 in²			10-120 psi	Air	UD
3 NPS		4.71 in²			10-120 psi	Water	UD
4 NPS		8.49 in²			10-80 psi	Air	UD
4 NPS		8.49 in²			10-80 psi	Water	UD
1 NPS		0.43 in²		0 in	35-300 psi	Air	UD
1 NPS		0.43 in²		0 in	35-300 psi	Water	UD

Chagrin Falls, OH 44022United States

This Company Manufactures or Assembles:

Design Name:	Mono Style W/Bar Vacuum Support	NBCert #	76058
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	02/25/2026

Design Type

[Rupture Disk Device] Mono Style W/Bar Vacuum Support  
HolderDesignation: N/A  
Capacity Tests: Sec. UD at National Board Testing Lab on December 16, 1999  
Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
Certified Value: 2.400 Unitless  
Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
Set Pressure Definition: Burst Pressure  
Flow Area Configuration: MNFA  
Designed by: Zook Enterprises, LLC {ZOE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.6 in²			10-150 psi		UD
1.5 NPS		1.34 in²			7-150 psi		UD
10 NPS		63.53 in²			0.25-125 psi		UD
12 NPS		89.09 in²			0.25-125 psi		UD
14 NPS		108.06 in²			0.25-100 psi		UD
16 NPS		144.52 in²			0.25-100 psi		UD
18 NPS		181.95 in²			0.25-100 psi		UD
2 NPS		2.39 in²			3-150 psi		UD
2.5 NPS		3.65 in²			3-150 psi		UD
20 NPS		233.28 in²			0.25-50 psi		UD
24 NPS		354.8 in²			0.25-50 psi		UD
3 NPS		5.56 in²			2-150 psi		UD
4 NPS		10.56 in²			1.5-150 psi		UD
5 NPS		15.88 in²			1.5-150 psi		UD
6 NPS		22.27 in²			1-150 psi		UD
8 NPS		40.26 in²			0.5-150 psi		UD

Design Name:	Mono Style W/Cross Vac. Support	NBCert #	76036
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Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	03/24/2026

## Design Type

[Rupture Disk Device] Mono Style W/Cross Vac. Support  
 HolderDesignation: N/A  
 Capacity Tests: Sec. UD at National Board Testing Lab on November 20, 1998  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value: 5.400 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Zook Enterprises, LLC {ZOE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.47 in <sup>2</sup>			10-150 psi		UD
1.5 NPS		1.05 in <sup>2</sup>			7-150 psi		UD
10 NPS		50.78 in <sup>2</sup>			0.25-125 psi		UD
12 NPS		69.09 in <sup>2</sup>			0.25-125 psi		UD
14 NPS		83.31 in <sup>2</sup>			0.25-100 psi		UD
16 NPS		112.6 in <sup>2</sup>			0.25-100 psi		UD
18 NPS		153.7 in <sup>2</sup>			0.25-100 psi		UD
2 NPS		1.86 in <sup>2</sup>			3-150 psi		UD
2.5 NPS		2.94 in <sup>2</sup>			3-150 psi		UD
20 NPS		184.5 in <sup>2</sup>			0.25-50 psi		UD
24 NPS		294.1 in <sup>2</sup>			0.25-50 psi		UD
3 NPS		4.31 in <sup>2</sup>			2-150 psi		UD
4 NPS		8.81 in <sup>2</sup>			1.5-150 psi		UD
5 NPS		12.7 in <sup>2</sup>			1.5-150 psi		UD
6 NPS		17.27 in <sup>2</sup>			1-150 psi		UD
8 NPS		31.82 in <sup>2</sup>			0.5-150 psi		UD

Design Name: Mono Style W/Plate Vac. Support NBCert # 76025

Manufacturer/Assembler	Designators	Expiration Date
Manufacturer	UD	03/24/2026

## Design Type

[Rupture Disk Device] Mono Style W/Plate Vac. Support  
 HolderDesignation: N/A  
 Capacity Tests: Sec. UD at National Board Testing Lab on April 22, 1999  
 Method of Establishing Relieving Capacity: Flow Resistance, 3 Size, Krgl  
 Certified Value:15.700 Unitless  
 Media - Test: Air/Gas, Water/Liquid (Kr test on Air/Gas); Certified: Compressible and Incompressible (Krgl)  
 Set Pressure Definition: Burst Pressure  
 Flow Area Configuration: MNFA  
 Designed by: Zook Enterprises, LLC {ZOE}

Inlet Size	Outlet Size	Flow Area	Orifice [designator] dia.	Lift	Set Pressure Range	Media	Designator
1 NPS		0.32 in <sup>2</sup>			10-150 psi		UD
1.5 NPS		0.72 in <sup>2</sup>			7-150 psi		UD
10 NPS		32.66 in <sup>2</sup>			0.25-125 psi		UD
12 NPS		47.24 in <sup>2</sup>			0.25-125 psi		UD
14 NPS		58.07 in <sup>2</sup>			0.25-100 psi		UD

16 NPS	84.49 in <sup>2</sup>	0.25-100 psi	UD
18 NPS	104.31 in <sup>2</sup>	0.25-100 psi	UD
2 NPS	1.3 in <sup>2</sup>	3-150 psi	UD
2.5 NPS	2.04 in <sup>2</sup>	3-150 psi	UD
20 NPS	122.49 in <sup>2</sup>	0.25-50 psi	UD
24 NPS	190.61 in <sup>2</sup>	0.25-50 psi	UD
3 NPS	2.95 in <sup>2</sup>	2-150 psi	UD
4 NPS	5.47 in <sup>2</sup>	1.5-150 psi	UD
5 NPS	8.39 in <sup>2</sup>	1.5-150 psi	UD
6 NPS	12.05 in <sup>2</sup>	1-150 psi	UD
8 NPS	21.14 in <sup>2</sup>	0.5-150 psi	UD