CURTISS-WRIGHT

Farris 2400 Product Series

Pressure Relief Valves

Focused On Customer Solutions

Our Commitment; Provide customers with total pressure and flow control management solutions transforming and ensuring plant function and safety.

Experienced Sales and Engineers
To support and engineer solutions

Service Support
Providing entire life cycle solutions

Innovative Tools
To calculate the accurate solution

Superior Product
Valves for the appropriate solution

Factory Authorized Service Team and Sales Representative Network

- Factory trained technicians in OEM specifications
- Local service and in-line testing reducing maintenance cost.
- Capability to track and manage relief valve maintenance and repair history
- Access to sales network and keeping global inventory local

Contact Us
valves.curtisswright.com

Company Profile

Curtiss-Wright Corporation (NYSE: CW) has a long history with its roots dating back to Orville and Wilbur Wright's first flight in 1903, and Glenn Curtiss, the father of naval aviation. In 1929, the companies founded by these three great aviation pioneers, the Curtiss Aeroplane and Motor Company and Wright Aeronautical Corporation, merged to form the largest aircraft company at the time, Curtiss-Wright Corporation.

We have continued on the path of innovation and advanced engineering, and have applied that expertise to a number of critical applications in high-performance markets. Our success has resulted in a world-renowned reputation for performance, long-standing customer relationships and significant growth.

Today, we are a global, integrated provider of highly engineered, technologically advanced products and services. Our revenues are generated by providing our critical solutions through three segments: Aerospace & Industrial, Defense Electronics and Naval & Power, which support several of the largest, most vital industries in the world.

Solutions Management and Innovative Tools

Valve Sizing and Selection Software

SizeMaster™

- Provides sizing for vapor, liquid, steam and two-phase flow
- Capable of multi scenario sizing. Multi-valve algorithm to easily size from multiple valves
- Built-in catalog selector ensures the proper product appropriate based on pressure and temperature
- Compliant with ASME and API

FloSPEC®

- Capable of multi scenario sizing. Multi-valve algorithm to easily size from multiple valves
- Develop, dimensional drawings
- Maintain project data
- Generate orders to be sent direct to production

System Management Software

iPRSM™

Software Capabilities

- Overpressure analysis with relief load calculations
- Inlet and outlet piping hydraulic calculations
- Header blowdown and knockout drum calculations
- Acoustic induced vibration analysis

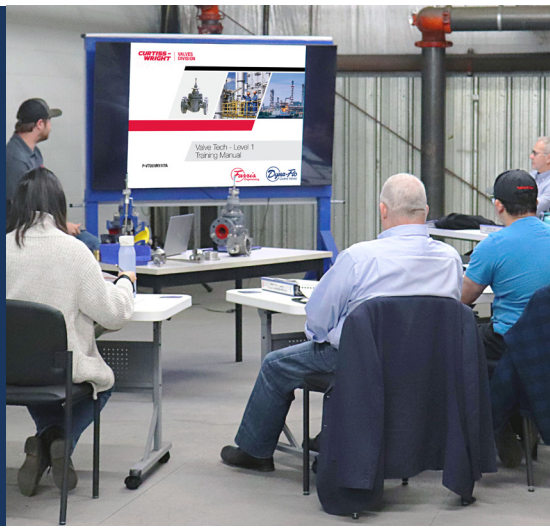
TRAINING

We offer technical training courses learning about valve management and industry scenarios.

SOME AVAILABLE CLASSES

- Pressure relief valve functionality
- Sizing requirements
- Material selection
- Sizing software training
- Maintenance and repair
- Mitigating overpressure scenarios

CONTACT: YOUR SALES REP FOR MORE INFORMATION



2400 Series Pressure Relief Valve

A high performance direct spring loaded pressure relief valve platform with a soft seat design to provide reliable overpressure protection in a variety of conditions.

Features & Benefits

- ASME Section XIII, CRN, and PED conformance for air and liquid service.
- Bubble-tight soft seat design allows for processes to operate closer to set pressure, minimizing leakage and frequent maintenance.
- Available with ½" to 1" threaded or flanged end connections and B,D, and E orifice sizes.

2400 for Gas and Vapor Service

- External blowdown control for the air/gas design allows adjustment without affecting set pressure.
- Soft seat design is available in a variety of elastomers and plastic seats for compatibility with a wide range of system fluids.

2400L for Liquid Service

- Balanced design with a backpressure rating of 90% of set pressure, to reduce the effects of backpressure without the need for costly bellows.
- High Pressure design can be set up to 6000 psig for critical applications.
- Platform design allows for ease of maintenance and orifice size change by replacing the seat retainer.
- Available in carbon steel or stainless steel with plastic seat seals.

Table of Contents

Model Number System

Whether you are specifying a new valve, replacing a valve or identifying an existing valve, our model number system will help.

Series Number – 2400 Series Pressure Relief Valve.

Orifice Letter – Letter is based on orifice area, generated after sizing calculation is performed using SizeMaster* to ensure proper fit.

*SizeMaster is our web-based sizing selection software. www.sizemaster.com

Seat Material – Elastomer or Plastic. To determine appropriate seat material you must know the system pressure and temperature ranges. Tables are provided on page 9 to assist with selection.

Inlet and Outlet Size and Connection Type – Based on compatibility with system piping.

Service Fluid – The type and state of fluid to the relieved.

Materials of Construction – Select to assure compatibility with process conditions.

Cap Type – Selection of a plain or packed lever cap should be based on code requirements and process conditions.

Accessory – Test gag option is available to hold valve closed when the system is being hydrostatically tested.

The valve model number consists of designators in the sequence shown below.

24	B	V	2	M	3	F	G	-	C1	2	0
Series Number	Orifice Letter (Sq. In.)	Seat Material[1]	Inlet Size	Inlet Connection Type	Outlet Size	Outlet Connection Type	Service Fluid		Materials of Construction	Cap Type	Accessory
24	**B** (0.049) **D** (0.110) **E** (0.196)	**V** FKM **B** Buna N **E** EPDM **K** Kalrez® **H** HNBR **T** PTFE **L** PCTFE	**1** 1/2" **2** 3/4" **3** 1"	**M** Male NPT **F** Female NPT **1** Flange 150 RF **2** Flange 300 RF **3** Flange 600 RF **4** Flange 900 RF **5** Flange 1500 RF **6** Flange 2500 RF	**2** 3/4" **3** 1"	**F** Female NPT **1** Flange 150 RF **2** Flange 300 RF **3** Flange 600 RF **4** Flange 900 RF **5** Flange 1500 RF **6** Flange 2500 RF	**G** Gas / Vapor **L** Liquid **H** High-Pressure Liquid	-	**C1** Standard Construction **S4** Complete 316 SS **B4** Brass/ Bronze **N1** NACE C1 Construction[2] **N4** NACE S4 Construction[2]	**2** Plain **4** Packed Lever	**0** No Gag **1** Test Gag

See available combinations below

[1] Selection of soft seat materials compatible with the service conditions is the customer's responsibility. See available options on page 10.

[2] Inconel spring.

[3] Kalrez is a registered trademark of DuPont Performance Elastomers.

Inlet and Outlet Combinations of Sizes and Connection Types

Valve Size Inlet x Outlet	Inlet Connection							Outlet Connection			
	NPT		Flange Class RF					NPT	Flange Class RF		
	Female	Male	150#	300#	600#	900#	1500# 2500#	Female	150#	300# 600#	900# 1500# 2500#
B Orifice											
1/2" x 3/4"	G	G	G	G	G	G	-	G	G	G	-
1/2" x 1"	All	All	G,L	G,L	All	G,H	H	All	All	All	H
3/4" x 3/4"	G	G	G	G	G	G	-	G	G	G	-
3/4" x 1"	All	All	G,L	G,L	All	G,H	H	All	All	All	H
1" x 1"	L,H	All	G,L	G,L	All	G,H	H	All	All	All	H
D Orifice											
1/2" x 1"	G	G	G	G	G	-	-	G	G	G	-
3/4" x 1"	All	All	G,L	All	G,H	H	H	All	All	All	H
1" x 1"	All	All	G,L	All	G,H	H	H	All	All	All	H
E Orifice											
3/4" x 1"	All	All	G,L	All	H	H	H	All	All	All	H
1" x 1"	All	All	G,L	All	H	H	H	All	All	All	H

G = Gas/Vapor L = Liquid H = Liquid High-Pressure

2400 Series – Vapor

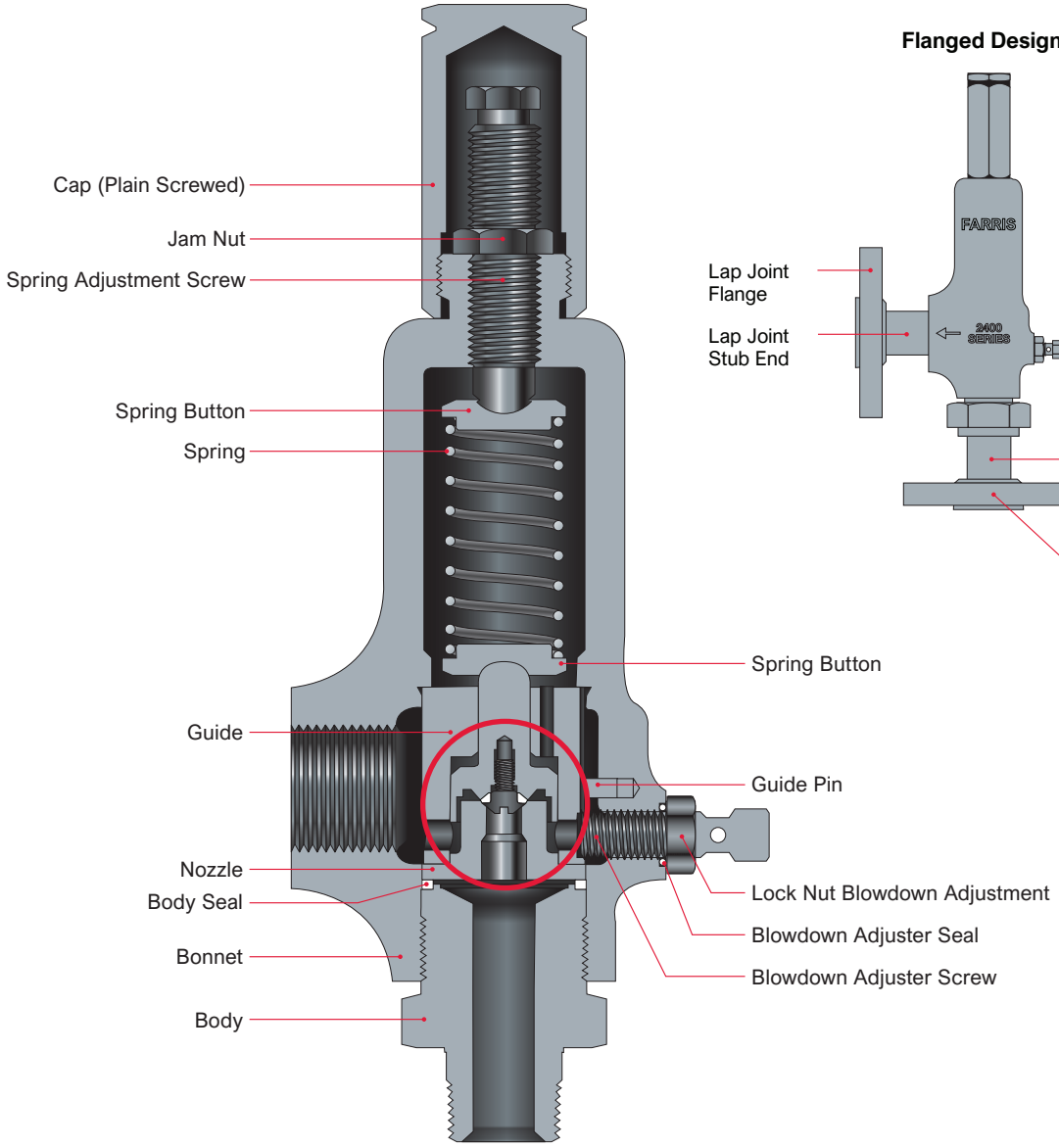
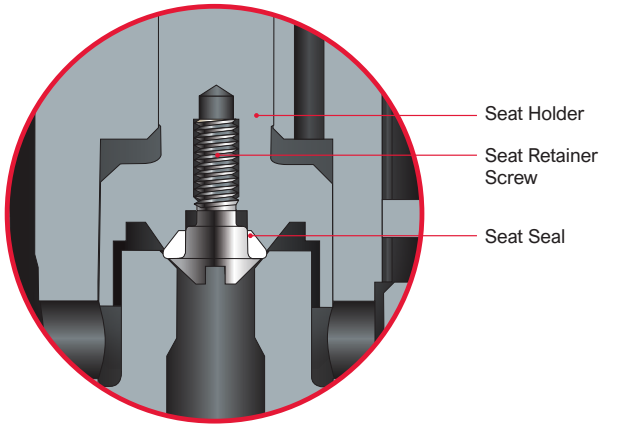
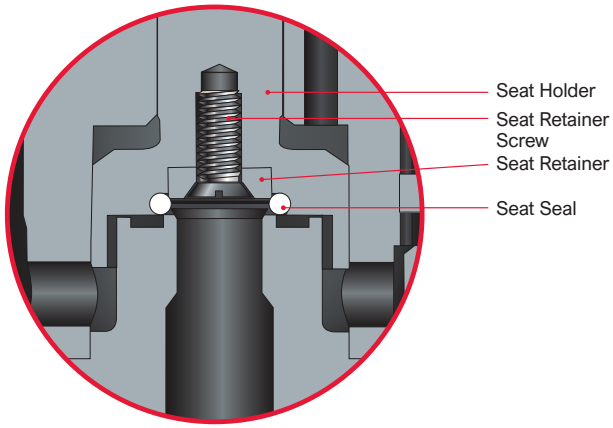


Diagram represents plastic seat design

Flanged Design



Plastic Seat



Elastomer Seat

Bill of Materials – 2400 Vapor

Part Name	Standard Carbon Steel (C1)	316 SS (S4)	Brass/Bronze (B4)
Body	316 SS ASME SA-479	316 SS ASME SA-479	Brass ASTM B16 H. H.
Bonnet	Carbon Steel ASME SA-216 Grade WCB	Stainless Steel ASME SA-351 Grade CF8M	Bronze ASME SB 62
Nozzle	316 SS	316 SS	Brass[2]
Guide			
Seat Holder			
Seat Retainer			
Seat Retainer Screw			
Seat Seal, Elastomer or Plastic[1]	**See page 10**		
Spring Adjustment Screw	316 SS	316 SS	Brass
Jam Nut			
Guide Pin			316 SS
Blowdown Adjuster Screw			Brass
Lock Nut, Blowdown Adjustment			
Cap, Plain Screwed	Carbon Steel	316 SS	Brass
Body Seal, Elastomer Seat[1]	Same as selected seat material		
Body Seal, Plastic Seat[1]	Glass filled PTFE		
Blowdown Adjuster Seal	PTFE		
Spring	Stainless Steel	316 SS	Stainless Steel
Spring Buttons	316 SS	316 SS	Brass
Wire Seal (Not Shown)	SS Wire / Lead Seal		
Nameplate (Not Shown)	Stainless Steel		
Lap Joint Stub End (Inlet)	316 SS	316 SS	N/A
Lap Joint Stub End (Outlet)	Carbon Steel		
Lap Joint Flange (Inlet)			
Lap Joint Flange (Outlet)			

[1] Recommended spare parts.
[2] Plastic seated valves have a 316 SS seat retainer screw.

2400 / 2400L Bill of Materials - NACE Compliant Options

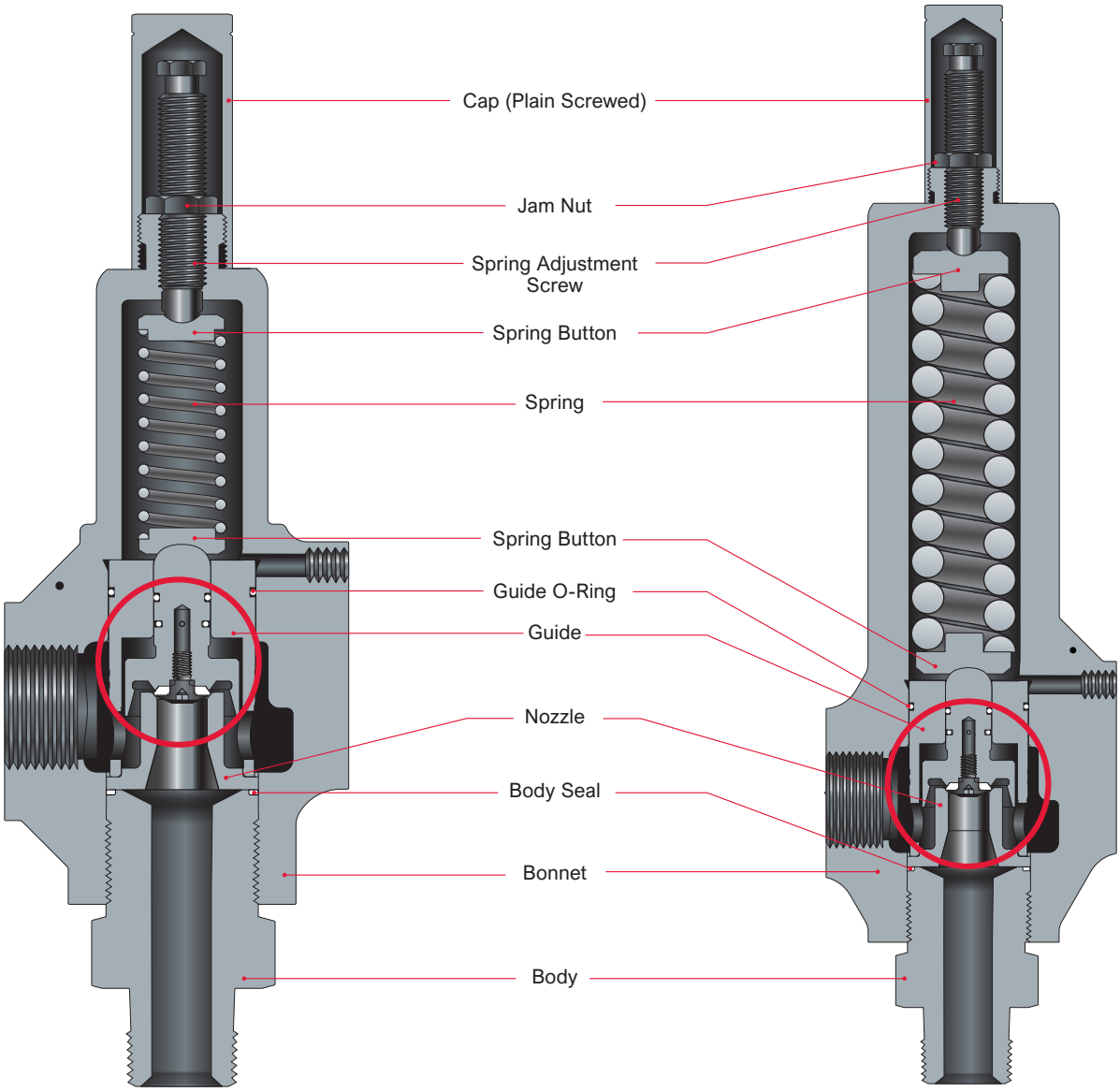
Modifications for NACE compliance from their respective Bills of Materials are listed below

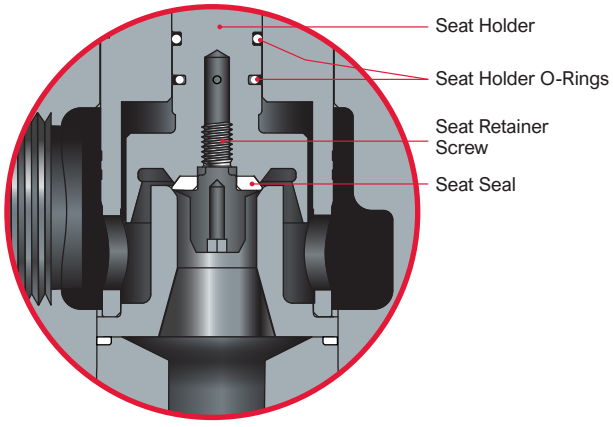
Part Name	Standard Carbon Steel (N1)	316 SS (N4)
Body	316 SS (NACE)	316 SS (NACE)
Bonnet	Carbon Steel (NACE)	Stainless Steel (NACE)
Nozzle	316 SS (NACE)	316 SS (NACE)
Seat Holder		
Seat Retainer		
Spring	Inconel X-750	Inconel X-750
Lap Joint Stub End (Inlet)	316 SS (NACE)	316 SS (NACE)
Lap Joint Stub End (Outlet)	Carbon Steel (NACE)	316 SS (NACE)
Lap Joint Flange (Inlet)	Carbon Steel (NACE)	316 SS (NACE)
Lap Joint Flange (Outet)	Carbon Steel (NACE)	316 SS (NACE)

2400L Series – Liquid

Standard Model with E Orifice

High-Pressure Model with E Orifice





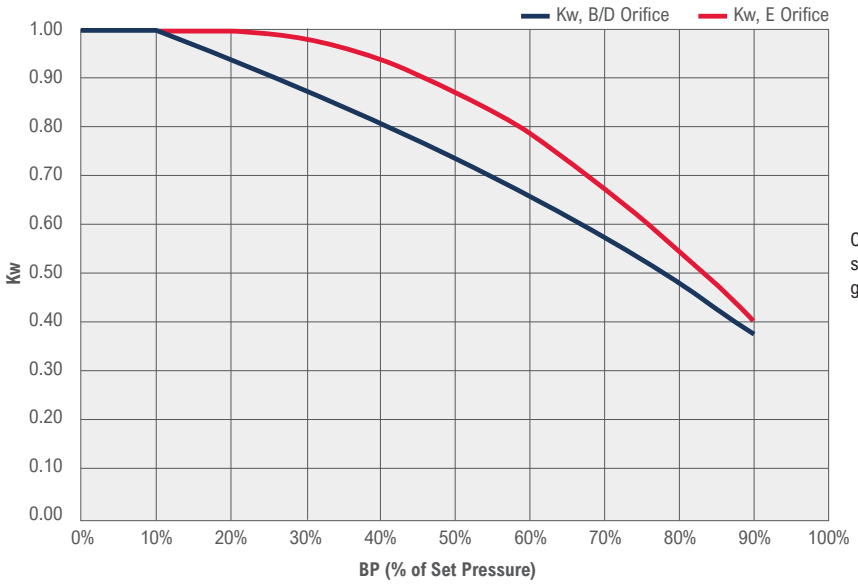
B and D Orifice Seat

Bill of Materials – 2400L Liquid

Part Name	Standard Carbon Steel (C1)	316 SS (S4)	Brass/Bronze (B4)
Body	316 SS SA-479 Type	316 SS SA-479 Type	Brass ASTM B16 H. H.
Bonnet	Carbon Steel SA-216 Gr. WCB	Stainless Steel ASME SA-351 Grade CF8M	Bronze ASME SB 62
Nozzle	316 SS	316 SS	Brass
Guide			
Seat Holder			
Seat Retainer Screw	316 SS		
Guide O-Ring[2]	FKM[3]		
Seat Holder O-Ring (x2)[2]	FKM[3]		
Seat Seal, Plastic[1,2]	PTFE or PCTFE		
Spring Adjustment Screw	316 SS	316 SS	Brass
Jam Nut			
Cap, Plain Screwed	Carbon Steel	316 SS	Brass
Body Seal, Plastic Seat[2]	Glass filled PTFE		
Spring	Stainless Steel	316 SS	Stainless Steel
Spring Buttons	316 SS	316 SS	Brass
Wire Seal (Not Shown)	SS. Wire / Lead Seal		
Nameplate (Not Shown)	Stainless Steel		
Lap Joint Stub End (Inlet)	316 SS	316 SS	N/A
Lap Joint Stub End (Outlet)	Carbon Steel		
Lap Joint Flange (Inlet)			
Lap Joint Flange (Outlet)			

[1] PTFE used for set pressure up to 2000 psig. PCTFE used for set pressures > 2000 psig.
[2] Recommended spare parts.
[3] For other o-ring materials, contact your representative.

2400L Series Back Pressure Correction Factor



Consult Factory for Kw values for subcooled thermal expansion cases greater than 90% back pressure.

Seat Capabilities and Material Selection

The 2400 Series for Vapor service is provided with either an elastomer or a plastic seat. The 2400L Series is only available with plastic seats. Valves are tested to meet the requirements of American Petroleum Institute (API) Standard 527 for leak-tight performance up to 95% of set pressure.

Seat Tightness Capabilities

Seat Pressures Range	Operating Press. Range
100 psig (6.9 barg) and higher	0% to 95% of Set
50 to 99 psig (3.4 to 6.8 barg)	0% to 90% of Set
Below 50 psig (3.4 barg)	5 psig (.34 barg) below Set

Elastomer seat – Minimizes fugitive emissions and product loss.

Plastic seat– Suitable in cryogenic temperatures or corrosive applications.

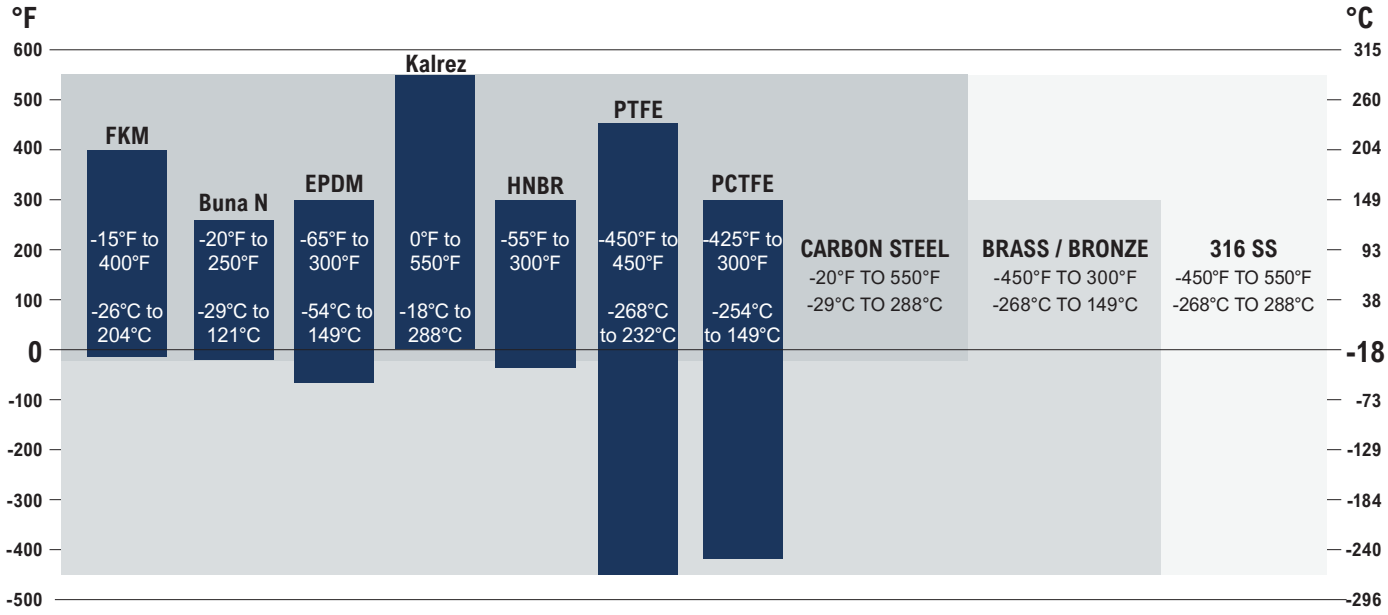
Elastomer & Plastic Seat, Pressure and Set Pressure Range

Type	Service Fluid	Seat Material	Seat Code	Set Pressure Range						Max. Back Pressure psig [barg] at 100°F [37.8°C]
				B Orifice		D Orifice		E Orifice		
				psig	barg	psig	barg	psig	barg	
Elastomer	Gas/Vapor	FKM	V	20 to 2000	1.38 to 138	20 to 1410	1.38 to 97.2	20 to 600	1.38 to 41.4	400 [27.6]
		NBR	B							
		EPDM	E							
		Kalrez	K							
		HNBR	H							
Plastic*		PTFE	T	50 to 1000	3.45 to 69	50 to 900	3.45 to 62.1	50 to 600	3.45 to 41.4	
		PCTFE	L	1001 to 2000	69 to 138	901 to 1410	62.2 to 97.2	--	--	
Plastic*	Liquid	PTFE	T	50 to 1160	3.45 to 80	50 to 600	3.45 to 41.4	50 to 600	3.45 to 41.4	90% of Set
	Liquid High Pressure	PTFE	T	1161 to 2000	80.1 to 138	601 to 2000	41.4 to 138	601 to 2000	41.4 to 138	90% of Set
		PCTFE	L	2001 to 6000	138 to 414	2001 to 5000	138 to 345	2001 to 4000	138 to 276	90% of Set

*Plastic seat material selection is set pressure dependent.
Brass/Bronze temperature limited to 300°F and 3000 psig set pressure.

Seat Capabilities and Material Selection

Temperature Range



Temperature range may vary depending on service fluid & specific compound in a given material class.
2400L valve temperature rating is based on the rating of the elastomer guide and seat holder o-ring materials.

Flanged Set Pressure Limits

Service Fluid	Flange Class	Max. Set Pressure psig (barg) at 100°F (37.8°C)						Max. Back Pressure psig (barg)	
		B Orifice		D Orifice		E Orifice			
		C1/N1	S4/N4	C1/N1	S4/N4	C1/N1	S4/N4	C1/N1	S4/N4
2400 Vapor	150 RF	285 (19.6)	275 (19.1)	285 (19.6)	275 (19.1)	285 (19.1)	275 (19.1)	285 (19.6)	275 (19.1)
	300 RF	740 (51.0)	720 (49.7)	740 (51.0)	720 (49.7)	600 (41.3)	600 (41.3)	400 (27.5)	400 (27.5)
	600 RF	1480 (102)	1440 (99.4)	1410 (97.2)	1410 (97.2)	-	-	400 (27.5)	400 (27.5)
	900 RF	2000 (137)	2000 (137)	-	-	-	-	400 (27.5)	400 (27.5)
2400L Liquid	150 RF	285 (19.6)	275 (19.1)	285 (19.1)	275 (19.1)	285 (19.1)	275 (19.1)	90% of Set	90% of Set
	300 RF	740 (51.0)	720 (49.7)	600 (41.3)	600 (41.3)	600 (41.3)	600 (41.3)	90% of Set	90% of Set
	600 RF	1160 (79.9)	1160 (79.9)	-	-	-	-	90% of Set	90% of Set
2400L Liquid High-Pressure	300 RF	-	-	740 (51.0)	720 (49.7)	740 (51.0)	720 (49.7)	90% of Set	90% of Set
	600 RF	1480 (102)	1440 (99.4)	1480 (102)	1440 (99.4)	1480 (102)	1440 (99.4)	90% of Set	90% of Set
	900 RF	2220 (153)	2160 (148)	2220 (153)	2160 (148)	2220 (153)	2160 (148)	90% of Set	90% of Set
	1500 RF	3705 (255)	3600 (248)	3705 (255)	3600 (248)	3705 (255)	3600 (248)	90% of Set	90% of Set
	2500 RF	6000 (413)	6000 (413)	5000 (344)	5000 (344)	4000 (275)	4000 (275)	90% of Set	90% of Set

Flanged end connections not available with brass.

2400 Series – Capacity Tables

Complies with ASME Pressure Vessel Code, Section VIII and XIII, (UV) Stamp.
For sizing purposes the coefficient of discharge K_d is 0.817 for air, gas and vapor service.

AIR - 10% Overpressure Capacities in Standard Cubic Feet Per Minute at 60°F

(Standard Cubic Meters Per Minute at 15.6°C)

Set Pressure (psig)	Orifice Area, Sq. In.		
	B	D	E
	0.049	0.110	0.196
20*	28	62	111
30*	35	79	140
40	43	97	172
50	51	115	205
60	59	133	237
70	67	151	269
80	75	169	301
90	83	187	334
100	92	205	366
150	132	296	527
200	172	387	689
250	213	477	850
300	253	568	1012
350	293	658	1173
400	334	749	1335
450	374	840	1496
500	414	930	1658
550	455	1021	1819
600	495	1112	1981
650	535	1202	
700	576	1293	
750	616	1383	
800	657	1474	
850	697	1565	
900	737	1655	
950	778	1746	
1000	818	1836	
1050	858	1927	
1100	899	2018	
1150	939	2108	
1200	979	2199	
1250	1020	2289	
1300	1060	2380	
1350	1101	2471	
1400	1141	2561	
1450	1181		
1500	1222		
1550	1262		
1600	1302		
1650	1343		
1700	1383		
1750	1423		
1800	1464		
1850	1504		
1900	1545		
2000	1625		

*Capacities at 30 psig and below are based on 3 psi overpressure.

Set Pressure (barg)	Orifice Area, mm²		
	B	D	E
	31.61	70.97	126.45
1.4*	0.8	1.9	3.2
2*	1.0	2.3	3.9
3	1.3	2.9	5.2
4	1.6	3.7	6.5
5	2.0	4.4	7.9
6	2.3	5.2	9.2
7	2.6	5.9	10.5
8	3.0	6.6	11.8
9	3.3	7.4	13.2
10	3.6	8.1	14.5
12	4.3	9.6	17.1
14	4.9	11.1	19.8
16	5.6	12.6	22.4
18	6.3	14.1	25.1
20	6.9	15.6	27.7
25	8.6	19.3	34.4
30	10.3	23.0	41.0
35	11.9	26.7	47.6
40	13.6	30.5	54.3
45	15.2	34.2	
50	16.9	37.9	
55	18.5	41.6	
60	20.2	45.3	
65	21.9	49.1	
70	23.5	52.8	
75	25.2	56.5	
80	26.8	60.2	
85	28.5	64.0	
90	30.1	67.7	
95	31.8	71.4	
100	33.5		
105	35.1		
110	36.8		
115	38.4		
120	40.1		
125	41.8		
130	43.4		
135	45.1		
138	46.1		

*Capacities at 2.0 barg and below are based on 0.2 bar overpressure.

2400L Series – Capacity Tables

Complies with ASME Pressure Vessel Code, Section VIII and XIII, (UV) Stamp.
For sizing purposes the coefficient of discharge Kd is 0.721 for water/liquid serivce

WATER - 10% Overpressure Capacities in U.S. Gallons Per Minute at 70°F

(Liters Per Minute at 21°C)

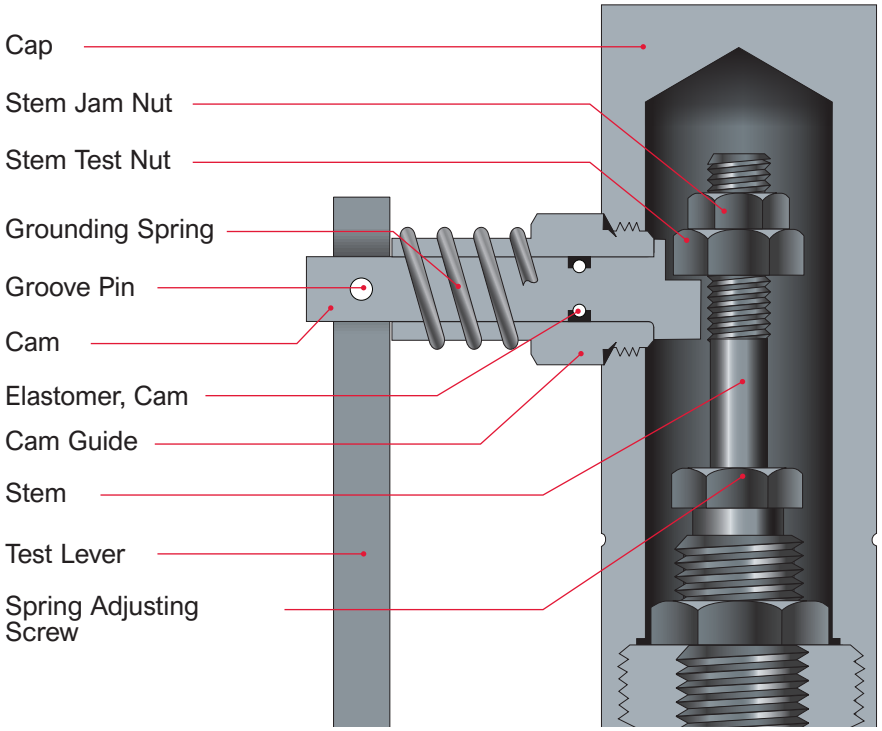
Set Pressure (psig)	Orifice Area, Sq. In.		
	B	D	E
	0.049	0.110	0.196
50	10	23	40
60	11	25	44
70	12	27	48
80	13	29	51
90	13	30	54
100	14	32	57
110	15	33	59
150	17	39	69
200	20	45	80
250	22	50	89
290	24	54	96
300	24	55	98
350	26	59	106
400	28	63	113
450	30	67	120
500	32	71	126
550	33	74	132
600	35	78	138
650	36	81	144
700	37	84	149
750	39	87	154
800	40	89	159
850	41	92	164
900	42	95	169
950	43	97	174
1000	45	100	178
1100	47	105	187
1200	49	110	195
1300	51	114	203
1400	53	118	211
1500	55	122	218
1600	56	126	225
1700	58	130	232
1800	60	134	239
1900	61	138	246
2000	63	141	252
2250	67	150	267
2500	70	158	282
2750	74	166	295
3000	77	173	309
3250	80	180	321
3500	83	187	333
3750	86	194	345
4000	89	200	356
4250	92	206	367
4500	94	212	378
4750	97	218	388
5000	100	224	398
5250	102	229	408
5500	104	234	418
5750	107	240	427
6000	109	245	436

Set Pressure (barg)	Orifice Area, mm²		
	B	D	E
	31.61	70.97	126.45
3.4	38.1	85.7	153
4.1	41.7	93.7	167
4.8	45.0	101	180
5.5	48.0	108	192
6.2	50.9	114	204
6.8	53.6	120	215
7.5	56.2	126	225
10	65.5	147	262
13	75.6	170	303
17	84.5	190	338
19	90.9	204	364
20	92.5	208	370
24	99.9	224	400
27	107	240	427
31	113	254	453
34	119	268	477
37	125	281	501
41	131	293	523
44	136	305	544
48	141	317	565
51	146	328	584
55	151	339	604
58	156	349	622
62	160	359	640
65	164	369	658
68	169	379	675
75	177	397	708
82	185	415	739
89	192	432	769
96	200	448	798
103	207	464	826
110	213	479	853
117	220	494	879
124	226	508	905
131	232	522	930
137	238	535	954
155	253	568	1012
172	267	598	1066
189	280	628	1118
206	292	656	1168
224	304	682	1216
241	315	708	1262
258	326	733	1306
275	337	757	1349
293	348	780	1390
310	358	803	1430
327	367	825	1470
344	377	846	1508
361	386	867	1545
379	395	887	1581
396	404	907	1617
413	413	927	1652

Packed Lifting Lever Option

The packed lifting lever is for applications where periodic testing is desirable. The lifting lever allows the valve to be tested at operating pressures of at least 75% of the valve set pressure.

ASME Boiler and Pressure Vessel Code Section VIII requires a lifting device for pressure relief valves used on air, steam, and water (over 140°F / 60°C).

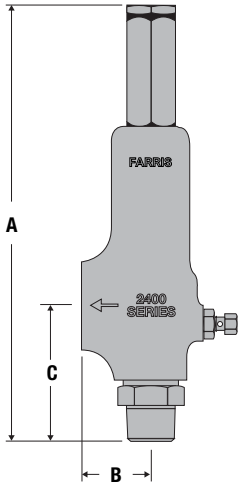


Cap Type	Part Name	Materials of Construction		
		Carbon Steel (C1)	316 SS (S4)	Brass/Bronze (B4)
Packed Lever	Cap, Packed	316 SS	316 SS	316 SS
	Stem Jam Nut	Stainless Steel		Stainless Steel
	Stem Test Nut			
	Grounding Spring		Stainless Steel	
	Groove Pin	Steel, Plated		
	Cam	Stainless Steel	316 SS	Stainless Steel
	Elastomer, Cam	FKM		
	Cam Guide	Stainless Steel	316 SS	Stainless Steel
	Stem			
	Test Lever		Stainless Steel	
	Spring Adjusting Screw			

Threaded Dimensions & Weights

Valve Size	Connection Type	US Customary Units (inches)			Metric Units (millimeters)			Approx. Weight	
Inlet x Outlet		A (Max.) Plain Cap[1,3] Construction	B[2]	C[2]	A (Max.) Plain Cap[1,3] Construction	B	C	Lbs.[4]	Kgs.
2400 B Orifice									
1/2 x 3/4	MNPT x FNPT FNPT x FNPT	9 9/16	1 1/2	2 7/8	243	38	73	4 1/2	2.1
1/2 x 1	MNPT x FNPT FNPT x FNPT	9 9/16	1 1/2	2 7/8	243	38	73	4 1/2	2.1
3/4 x 3/4	MNPT x FNPT FNPT x FNPT	9 9/16 9 3/4	1 1/2	2 7/8 3 1/16	243 248	38	73 78	4 1/2	2.1
3/4 x 1	MNPT x FNPT FNPT x FNPT	9 9/16 9 3/4	1 1/2	2 7/8 3 1/16	243 248	38	73 78	4 1/2	2.1
1 x 1	MNPT x FNPT	9 3/4	1 1/2	3 1/16	248	38	78	4 1/2	2.1
2400 D Orifice									
1/2 x 1	MNPT x FNPT FNPT x FNPT	11 11	1 13/16 1 13/16	3 11/16 3 11/16	279 279	46 46	94 94	8 1/2 8 1/2	3.9 3.9
2400 D & E Orifice									
3/4 x 1	MNPT x FNPT FNPT x FNPT	11	1 13/16	3 13/16 3 11/16	279	46	97 94	8 1/2	3.9
1 x 1	MNPT x FNPT FNPT x FNPT	11	1 13/16	3 13/16 3 11/16	279	46	97 94	8 1/2	3.9
2400L B Orifice									
1/2 x 1	MNPT x FNPT FNPT x FNPT	11 11	1 13/16 1 13/16	3 11/16 3 11/16	279 279	46 46	94 94	8 1/2 8 1/2	3.9 3.9
2400L B.D, & E Orifice									
3/4 x 1	MNPT x FNPT FNPT x FNPT	11	1 13/16	3 13/16 3 11/16	279	46	97 94	8 1/2	3.9
1 x 1	MNPT x FNPT FNPT x FNPT	11	1 13/16	3 13/16 3 11/16	279	46	97 94	8 1/2	3.9

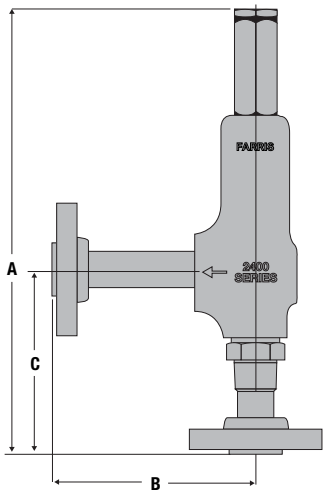
[1] Add 1" for packed lever cap.
[2] Tolerance for "B" and "C" dimensions are ±1/8".
[3] 2400L High Pressure model: Add 3.25" for plain cap and 4.25" for packed lever cap.
[4] 2400L High Pressure model: Add 8.5 lbs to weight of standard model.



2400 Series - Lap-Joint Flange Dimensions & Weights

Valve Size	Connection Type Inlet RF	Connection Type Outlet RF	US Customary Units (inches)			Metric Units (millimeters)			Approx. Weight	
			A (Max.) Plain Cap[1] Construction	B[2]	C[2]	A (Max.) Plain Cap[1] Construction	B	C	Lbs.	Kgs.
2400 B Orifice										
1/2 x 1	150#	150#	12	4 3/4	4 13/16	305	121	122	8 1/2	3.9
	300#	150#	12	4 3/4	4 13/16	305	121	122	9	4.1
	600#	150#	12	4 3/4	5	311	121	127	9	4.1
	900#	300#	12	4 3/4	5	311	121	127	12 1/2	5.7
	1500#	300#	12	4 3/4	5	311	121	127	12 1/2	5.7
3/4 x 1	150#	150#	12	4 3/4	4 3/4	305	121	121	9	4.1
	300#	150#	12	4 3/4	4 3/4	305	121	127	10 1/2	4.8
	600#	150#	12	4 3/4	4 3/4	305	121	127	10 1/2	4.8
	900#	300#	12	4 3/4	5	305	121	127	14	6.4
	1500#	300#	12	4 3/4	5	305	121	127	14	6.4
1 x 1	150#	150#	12	4 3/4	4 3/4	305	121	121	10	4.5
	300#	150#	12	4 3/4	4 3/4	305	121	121	11	5
	600#	150#	12	4 3/4	4 3/4	305	121	121	11	5
	900#	300#	12 1/2	6 3/4	5 3/4	318	171	146	17 1/2	7.9
	1500#	300#	12 1/2	6 3/4	5 3/4	318	171	146	17 1/2	7.9
2400 D Orifice										
1/2 x 1	150#	150#	12 1/8	4 3/4	4 13/16	308	121	122	11	5
	300#	150#	12 1/8	4 3/4	4 13/16	308	121	122	11 1/2	5.2
	600#	150#	12 1/4	4 3/4	5	312	121	126	11 1/2	5.2
3/4 x 1	150#	150#	12 1/16	4 3/4	4 3/4	306	121	121	11	5
	300#	150#	12 1/16	4 3/4	4 3/4	306	121	121	12 1/2	5.7
	600#	150#	12 1/16	4 3/4	4 3/4	306	121	121	12 1/2	5.7
1 x 1	150#	150#	12 1/16	4 3/4	4 3/4	306	121	121	12	5.4
	300#	150#	12 1/16	4 3/4	4 3/4	306	121	121	13	5.9
	600#	150#	12 1/16	4 3/4	4 3/4	306	121	121	13	5.9
2400 E Orifice										
3/4 x 1	150#	150#	12 1/16	4 3/4	4 3/4	306	121	121	11 1/2	5.2
	300#	150#	12 1/16	4 3/4	4 3/4	306	121	121	12 1/2	5.7
	600#	150#	12 1/16	4 3/4	4 3/4	306	121	121	12 1/2	5.7
1 x 1	150#	150#	12 1/16	4 3/4	4 3/4	306	121	121	12	5.4
	300#	150#	12 1/16	4 3/4	4 3/4	306	121	121	13 1/2	6.1
	600#	150#	12 1/16	4 3/4	4 3/4	306	121	121	13 1/2	6.1

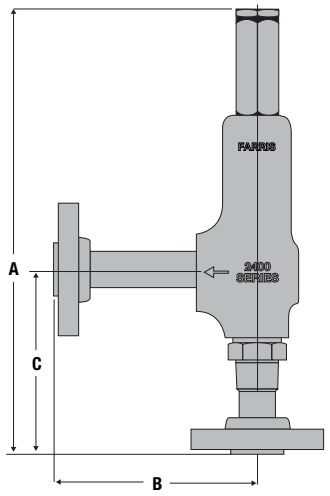
[1] Add 1" for packed lever valves.
[2] Tolerance for "B" and "C" dimensions are ±1/8".



2400L Series - Lap-Joint Flange Dimensions & Weights

Valve Size	Connection Type Inlet RF	Connection Type Outlet RF[4]	US Customary Units (inches)			Metric Units (millimeters)			Approx. Weight	
			A (Max.) Plain Cap[1,3] Construction	B[2]	C[2]	A (Max.) Plain Cap[1] Construction	B	C	Lbs.[6]	Kgs.
2400L B Orifice										
1/2 x 1	150#	All	12 1/8	4 3/4	4 13/16	308	121	122	11	5
	300#	All	12 1/8	4 3/4	4 13/16	308	121	122	11 1/2	5.2
	600#	All	12 1/4	4 3/4	5	312	121	126	11 1/2[5]	5.2
	900# (HP)	All	12 1/4	4 3/4	5	312	121	126	20	9.1
	1500# (HP)	All	12 1/4	4 3/4	5	312	121	126	20	9.1
	2500# (HP)	All	13 1/4	6 3/4	6	337	171	152	20	9.1
3/4 x 1	150#	All	12	4 3/4	4 3/4	305	121	120	11	5
	300#	All	12	4 3/4	4 3/4	305	121	120	11 1/2	5.2
	600#	All	12	4 3/4	4 3/4	305	121	120	11 1/2[5]	5.2
	900# (HP)	All	12	4 3/4	5	305	121	127	20	9.1
	1500# (HP)	All	12	4 3/4	5	305	121	127	20	9.1
	2500# (HP)	All	13	6 3/4	5 3/4	331	171	145	20	9.1
1 x 1	150#	All	12	4 3/4	4 3/4	305	121	120	11	5
	300#	All	12	4 3/4	4 3/4	305	121	120	11 1/2	5.2
	600#	All	12	4 3/4	4 3/4	305	121	120	11 1/2[5]	5.2
	900# (HP)	All	13	6 3/4	5 3/4	331	171	145	20	9.1
	1500# (HP)	All	13	6 3/4	5 3/4	331	171	145	20	9.1
	2500# (HP)	All	13	6 3/4	5 3/4	331	171	145	20	9.1
2400L D and E Orifice										
3/4 x 1	150#	All	12	4 3/4	4 3/4	305	121	120	11	5
	300#	All	12	4 3/4	4 3/4	305	121	120	11 1/2[5]	5.2
	600# (HP)	All	12	4 3/4	4 3/4	305	121	120	20	9.1
	900# (HP)	All	12	4 3/4	5	305	121	127	20	9.1
	1500# (HP)	All	12	4 3/4	5	305	121	127	20	9.1
	2500# (HP)	All	13	6 3/4	5 3/4	331	171	145	20	9.1
1 x 1	150#	All	12	4 3/4	4 3/4	305	121	120	11	5
	300#	All	12	4 3/4	4 3/4	305	121	120	11 1/2[5]	5.2
	600# (HP)	All	12	4 3/4	4 3/4	305	121	120	20	9.1
	900# (HP)	All	13	6 3/4	5 3/4	331	171	145	20	9.1
	1500# (HP)	All	13	6 3/4	5 3/4	331	171	145	20	9.1
	2500# (HP)	All	13	6 3/4	5 3/4	331	171	145	20	9.1

[1] Add 1" for packed lever valves.
[2] Tolerance for "B" and "C" dimensions are ±1/8".
[3] 2400L High Pressure model: Add 3.25" for plain cap valves and 4.25" for packed lever valves.
[4] Dimensions for 2400L do not vary with outlet flange ratings.
[5] Add 8.5 lbs to standard weight for High Pressure model.
[6] Based on model with 150# outlet flange.



Product Selection

Farris 2600 Product Series

Versatile and Customizable Spring Loaded Pressure Relief Valve

Product Description		
Pressure Range:	15 PSIG to 10,000 psig	1.03 to 689 barg
Temperature Range:	-450°F to +1500°F	-267.8°C to 815.6°C
Size Range:	1" x 2" to 20" x 24"	25 x 51 mm to 508 x 610 mm
Materials:	Carbon Steel, Stainless Steel, Monel, Hastelloy C, Duplex	
ASME Certification:	UV and V	
Service:	Steam/Water/Air/Multi-Media (CC 2787)	

Farris 2700 Product Series

Customizable Spring Loaded Pressure Relief Valve with a Compact Design

Product Description		
Pressure Range:	15 PSIG to 16,000 psig	(1.03 to 1103) BARG
Temperature Range:	-450°F to +750°F	-267.8°C to 398.9°C
Size Range:	1/2" x 1" to 1-1/2" x 2-1/2"	13 x 25.4 mm to 38 x 63.5 mm
Materials:	Carbon Steel, Stainless Steel, Monel, Hastelloy C	
ASME Certification:	UV	
Service:	Steam/Water/Air	

Farris 3800 Product Series

Pilot Operated Relief Valve with Snap Acting or Modulating Control

Product Description		
Pressure Range:	15 PSIG to 10,000 psig	1.03 to 689 barg
Temperature Range:	-450°F to +500°F	-267.8°C to 260°C
Size Range:	1" x 2" to 12" x 16"	25 x 51mm to 305 x 406 mm
Materials:	Carbon Steel, Stainless Steel, Monel, Hastelloy C, Duplex	
ASME Certification:	UV	
Service:	Steam/Water/Multi-Media (CC2787)	

Farris 4200 Product Series

Spring Loaded Pressure Relief Valve for Section I Steam Applications

Product Description		
Pressure Range:	15 PSIG to 1,480 psig	1.03 to 102 barg
Temperature Range:	-20°F to +1000°F	-28.9°C to 537.8°C
Size Range:	1-1/4" x 1-1/2" to 6" x 8"	32 x 38 mm to 152 x 203 mm
Materials:	Carbon Steel, Stainless Steel, and Chrome-Moly	
ASME Certification:	UV and V	
Service:	Steam/Air	

Warranty and Certifications

Warranty

All Products have a Warranty Period of twelve months from first installation or eighteen months from delivery, whichever is sooner. All other warranty terms are as per Curtiss-Wright Flow Control Corporation's Standard Terms and Conditions of Sale, a copy which is available at valves.curtisswright.com/en-us/terms or contact your local representative.

Certifications and Approvals:

- ASME V, UV, NV and NPT
- National Board Approval, NB
- ISO 9001:2015
- PED 2014/68/EU (European Pressure Equipment Directive)
- ATEX 2014/34/EU (European Potentially Explosive Atmospheres)
- CSA Z299.2/.3/.4, B51, N285.0 (Canadian Registration)
- CRN (Canadian Registration Number)
- CSQL (China Safety Quality License)
- Customs Union Certificates TR CU 010/2001 and TR CU 023/2013
- US Coast Guard
- Nuclear - 10 CFR 50 Appendix B, NCA-4000, NQA-1, N285.0
- First Point Assessment Limited

Refer to individual product catalogs for product specific certification.

V UV NV

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CATALOG #FE-24C-002