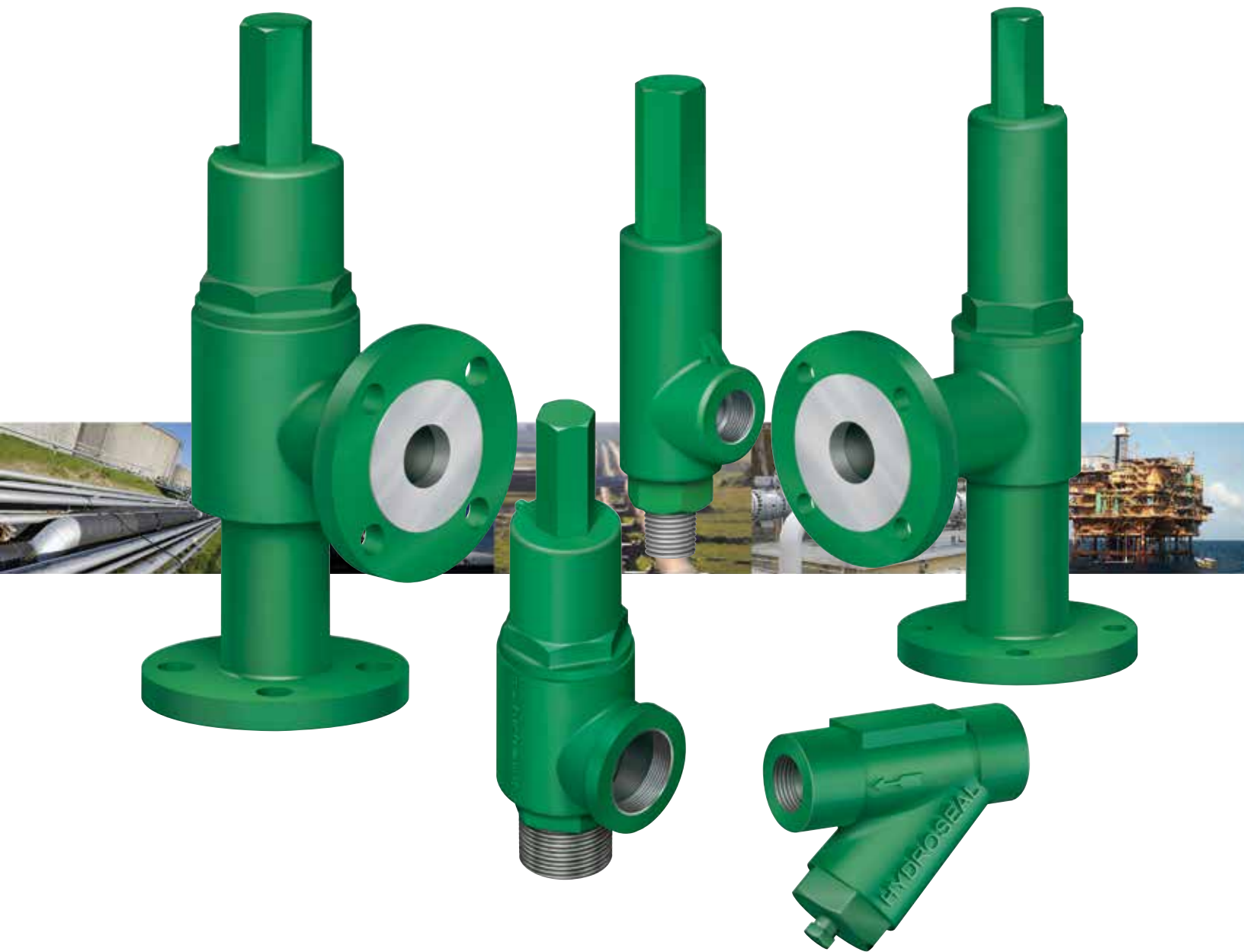


Hydroseal Valves

Legacy Series

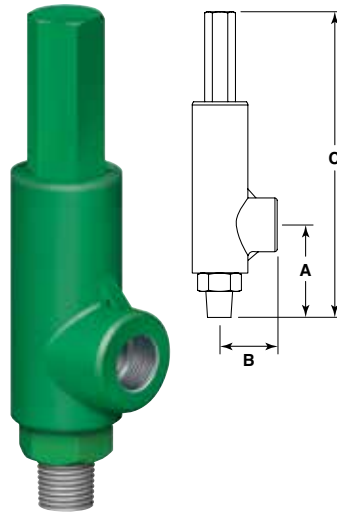


Hydroseal

Series 1-4 Ball & Seat Threaded Safety Relief Valves

General Design Features

- > Incorporates Hydroseal's "self-seeking soft seat" design
- > Ideal where economical low flow overpressure protection is required
- > ASME section VIII UV code stamped for air & gas
- > Available for non-code liquid applications
- > Operating temperatures to 800°F
- > ¼ "-1" NPT inlet sizes



Dimensional Data (in.)

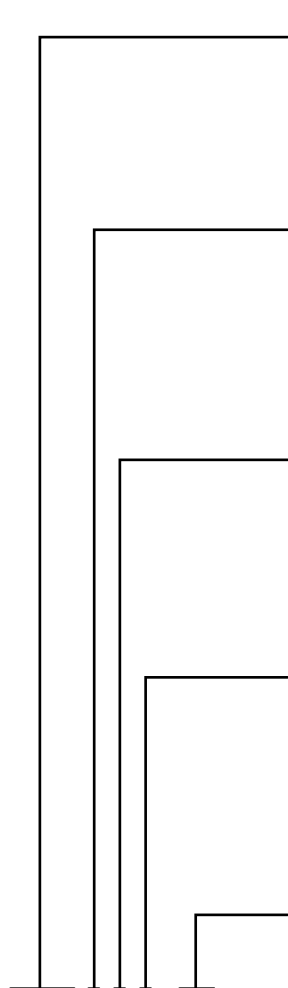
Cap Type	Dimension (in.)			Weight (lbs.)
	A	B	C	
Closed Cap	3.00	1.75	9.00	5
Lever Cap	3.00	1.75	10.00	6

Sizing Information

Orifice	Area	Gas KD	Liquid KD	Slope	Liq. Flow Factor
AV/DV	0.049	—	0.11	—	0.20
BV/EV	0.110	0.34	0.07	0.68	0.30
CRV/FRV	0.196	0.31	0.13	1.11	0.95
CXV/FXV	0.248	0.25	0.15	1.15	1.40

Leak tested in accordance with factory standard. Contact factory in order to receive sizing program and/or capacity charts. Water capacities determined at 25% over set pressure.

Part Number Codes



Inlet x Outlet/Orifice

Specify Model Number(Lower Right)

Material

- 0** • Std. Trim
- 2** • Std. Trim w/ Stellite® Ball
- 3** • All 316SS w/ Stellite® Ball
- 4** • All 316SS w/ Inconel® Spring & Stellite® Ball (NACE)
- 5** • 316SS Trim w/ Stellite® Ball
- 6** • 316SS Trim w/ Inconel® Spring & Stellite® Ball (NACE)
- 7** • Std. Material w/ Inconel® Spring

Cap Type

- 0** • Closed Cap
 - L** • Open Lift Lever
 - P** • Packed Lift Lever
- ASME Code requires lift lever on air service.

O-Ring/Soft Seat

- 0** • Nitrile (Buna-N) O-Ring w/ Viton® Soft Seat
- C** • Neoprene
- E** • EPDM
- F** • Fluorocarbon (Viton®)
- K** • Kalrez® O-Ring w/ Viton® Soft Seat
- M** • Metal Gasket
- N** • Nitrile (Buna-N)

Elastomer selection is media and temperature dependent.

Spring Code

Consult Factory for Spring Chart.

14EV 0 0 F / XX

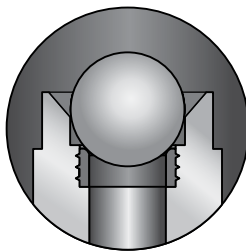
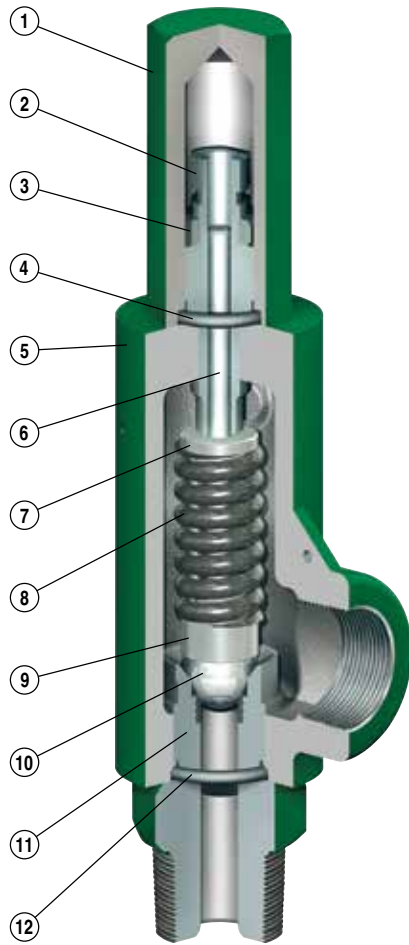
Example

Model Number

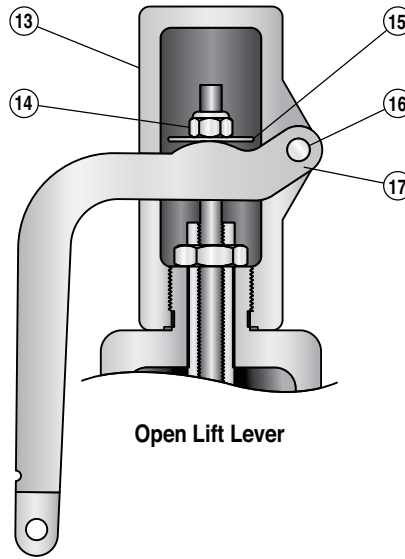
Model	Inlet x Outlet FNPT x FNPT	Orifice Dia.	Max Set (psig)
14AV		¼	4350
14BV	¼ x ¾	3/8	1350
14DV		¼	4350
14EV	¼ x 1	3/8	1350
38AV		¼	3800
38BV	3/8 x ¾	3/8	3800
38DV		¼	3800
38EV	3/8 x 1	3/8	3800
2AV		¼	4850
2BV		3/8	4850
2CXV*	½ x ¾	9/16	3500
2CRV**		½	2500
2DV		¼	4850
2EV		3/8	4850
2FXV*	½ x 1	9/16	3500
2FRV**		½	2500
1AV		¼	10,800
1BV		3/8	6000
1CXV*	½ x ¾	9/16	2600
1CRV**		½	2500
1DV		¼	10,800
1EV		3/8	6000
1FXV*	½ x 1	9/16	2600
1FRV**		½	2500
3AV		¼	12,500
3BV	¾ x ¾	3/8	6000
3CXV*		9/16	3500
3CRV**		½	2500
3DV		¼	12,500
3EV		3/8	6000
3FXV*	¾ x 1	9/16	3500
3FRV**		½	2500
4DV		¼	12,500
4EV		3/8	6000
4FXV*	1 x 1	9/16	3500
4FRV**		½	2500

Models 14, 38 and ¼" orifice are not ASME Code Stamped valves.
*Non-Code Below 21 psi
+Soft Seat Valve

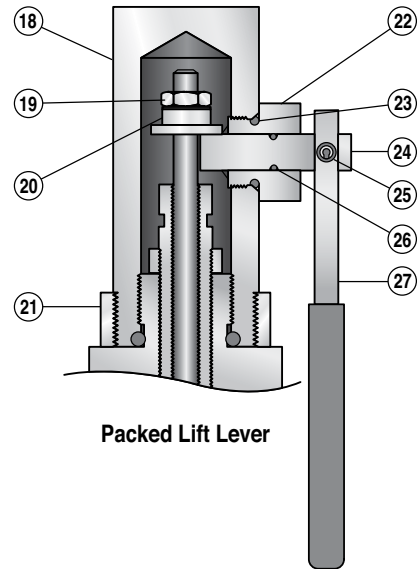
Series 1-4, Parts List & Material Selection



**Soft Seat Option
Model CRV/FRV**
Molded Viton® seal standard,
optional materials available.



Open Lift Lever



Packed Lift Lever

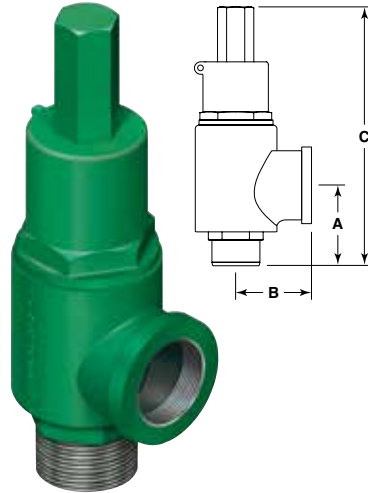
Index	Description	Material Code						
		0	2	3	4	5	6	7
1	Valve Cap	CS	CS	316SS	316SS	CS	CS	CS
2	Adjusting Screw	CS	CS	316SS	316SS	316SS	316SS	CS
3	Adjusting Lock Nut	SS	SS	316SS	316SS	316SS	316SS	SS
4	Cap Seal	Specify						
5	Body	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
6	Guide Stem	SS	SS	316SS	316SS	316SS	316SS	SS
7	Upper Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS
8	Spring	SS	SS	316SS	Inconel®	316SS	Inconel®	Inconel®
9	Lower Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS
10	Ball	440CSS	Stellite®	Stellite®	Stellite®	Stellite®	Stellite®	440CSS
11	Seat	SS	SS	316SS	316SS	316SS	316SS	SS
12	Body/Seat Seal	Specify						
Open Lift Lever								
13	Cap	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
14	Release Nut	CS	CS	316SS	316SS	CS	CS	CS
15	Release Washer	CS	CS	316SS	316SS	CS	CS	CS
16	Lever Pin	SS	SS	316SS	316SS	SS	SS	SS
17	Lever	CS	CS	316SS	316SS	CS	CS	CS
Packed Lift Lever								
18	Cap	CS	CS	316SS	316SS	CS	CS	CS
19	Release Nut	SS	SS	316SS	316SS	SS	SS	SS
20	Release Washer	SS	SS	316SS	316SS	SS	SS	SS
21	Lock Nut	CS	CS	316SS	316SS	CS	CS	CS
22	Gland Nut	SS	SS	316SS	316SS	SS	SS	SS
23	Gland O-Ring	Specify						
24	Lever Shaft	SS	SS	SS	SS	SS	SS	SS
25	Lever Pin	CS	CS	CS	SS	SS	CS	CS
26	Shaft O-Ring	Specify						
27	Lever	CS	CS	316SS	316SS	CS	CS	CS

Materials: CS-Carbon Steel, SS-Stainless Steel, WCB-ASME SA216, CF8M-ASME SA351

Series 5-8 Ball & Seat Threaded Safety Relief Valves

General Design Features

- > 1" - 2" inlet Sizes
- > Incorporates Hydroseal's "self-seeking soft seat" design
- > Operating temperatures to 600°F
- > Soft seat option provides primary seal with a metal-to-metal secondary seal
- > ASME section VIII UV code stamped for air & gas
- > Available for non-code liquid applications



Dimensional Data (in.)

Cap Type	Dimension (in.)			Weight (lbs.)
	A	B	C	
Closed Cap	3.88	3.00	13.13	20
Lever Cap	3.88	3.00	15.50	22

Sizing Information

Orifice	Area	Gas KD	Liquid KD	Slope	Liq. Flow Factor
ARV	0.196	0.31	0.13	1.11	1.0
AXV	0.248	0.25	0.16	1.15	1.5
BV	0.441	0.40	0.14	3.22	2.4
CRV	0.785	0.22	0.16	3.09	4.9
CV	0.785	0.22	0.16	3.13	4.9

Leak tested in accordance with factory standard. Contact factory in order to receive sizing program and/or capacity charts. Water capacities determined at 25% over set pressure.

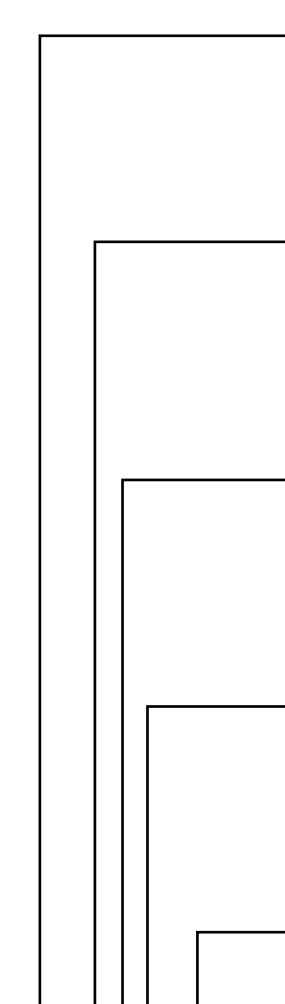
Model Number

Model	Inletx Outlet FNPTx FNPT	Orifice Diameter	Max Set (psi)
8ARV*‡	1 x 2	1/2	2000
8AXV+		9/16	6000
8BV		3/4	3000
8CV		1	2000
8CRV*#	1 1/4 x 2	1	2000
5ARV*‡		1/2	2000
5AXV+		9/16	6000
5BV		3/4	3000
5CV		1	2000
5CRV*#		1	2000

Model	Inletx Outlet FNPTx FNPT	Orifice Diameter	Max Set (psi)
6ARV*‡	1 1/2 x 2	1/2	2000
6AXV+		9/16	6000
6BV		3/4	3000
6CV		1	2000
6CRV*#	2 x 2	1	2000
7ARV*‡		1/2	2000
7AXV+		9/16	6000
7BV		3/4	3000
7CV		1	2000
7CRV*#		1	2000

*Soft seat valve
 †ASME certified to 3500 psi
 #Non-code below 18 psi
 ‡Non-code below 21 psi

Part Number Codes



Inlet x Outlet/Orifice

Specify Model Number(Lower Right)

Material

- 0** • Std. Material
- 1** • Std. w/316SS Spring & Stellite® Ball
- 3** • All 316SS w/ Stellite® Ball
- 4** • All 316SS w/Inconel® Spring & Stellite® Ball (NACE)
- 5** • 316SS Trim w/Stellite® Ball (NACE)
- 6** • 316SS Trim w/Inconel® Spring & Stellite® Ball (NACE)
- 7** • Std. Material w/Inconel® Spring

Cap Type

- 0** • Closed Cap
 - L** • Open Lift Lever
 - P** • Packed Lift Lever
- ASME Code requires lift lever on air service.

O-Ring/Soft Seat

- C** • Neoprene
- E** • EPDM
- F** • Fluorocarbon (Viton®)
- K** • Kalrez® O-Ring w/ Viton® Soft Seat
- M** • Metal Gasket w/Kalrez® Body/Seat Seal
- N** • Nitrile (Buna-N)
- O** • Nitrile (Buna-N) O-Ring w/Viton® Soft Seat & Body/Seat Seal

Elastomer selection is media and temperature dependent.

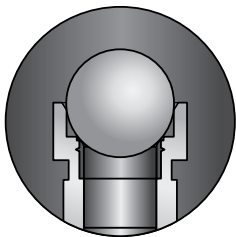
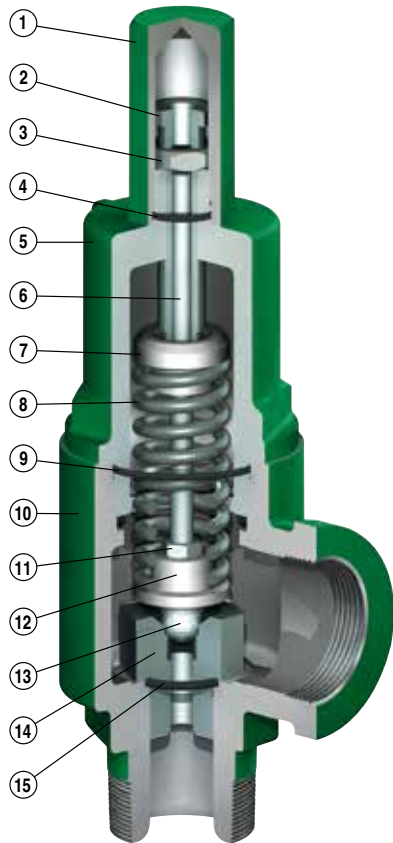
Spring Code

Consult Factory for Spring Chart.

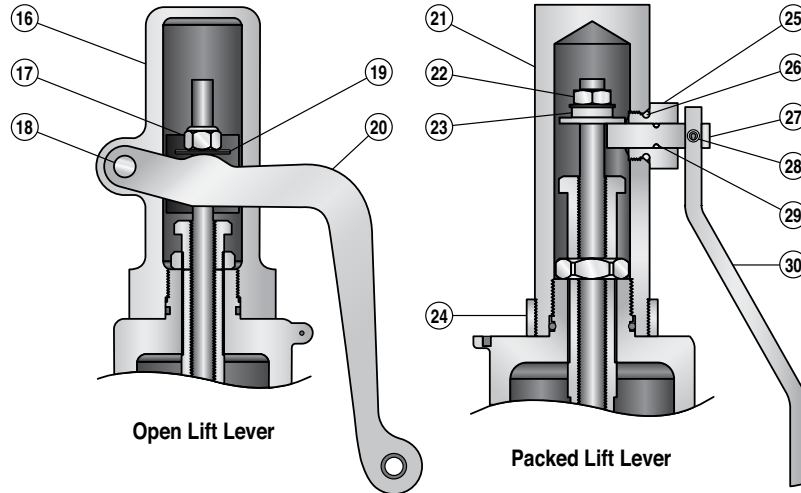
7CRV 0 0 F / XX

Example

Series 5-8, Parts List & Material Selection



**Soft Seat Option
Model ARV/CRV**
Molded Viton® seal standard
optional materials available.



Index	Description	Material Code							
		0	2	3	4	5	6	7	
1	Valve Cap	CS	CS	316SS	316SS	CS	CS	CS	
2	Adjusting Screw	CS	CS	316SS	316SS	316SS	316SS	CS	
3	Adjusting Lock Nut	SS	SS	316SS	316SS	316SS	316SS	SS	
4	Cap Seal	Specify							
5	Bonnet	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB	
6	Guide Stem	SS	SS	316SS	316SS	316SS	316SS	SS	
7	Upper Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS	
8	Spring	SS	316SS	316SS	Inconel®	316SS	Inconel®	Inconel®	
9	Body Bonnet Seal	Specify							
10	Body	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB	
11	Stem Lock Nut	SS	SS	316SS	316SS	316SS	316SS	SS	
12	Lower Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS	
13	Ball	440C SS	Stellite®	Stellite®	Stellite®	Stellite®	Stellite®	440C SS	
14	Seat	SS	SS	316SS	316SS	316SS	316SS	SS	
15	Body/Seat Seal	Specify							
Open Lift Lever									
16	Cap	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB	
17	Release Nut	CS	CS	316SS	316SS	CS	CS	CS	
18	Lever Pin	SS	SS	316SS	316SS	SS	SS	SS	
19	Release Washer	CS	CS	316SS	316SS	CS	CS	CS	
20	Lever	CS	CS	316SS	316SS	CS	CS	CS	
Packed Lift Lever									
21	Cap	CS	CS	316SS	316SS	CS	CS	CS	
22	Release Nut	SS	SS	316SS	316SS	SS	SS	SS	
23	Release Washer	SS	SS	316SS	316SS	SS	SS	SS	
24	Lock Nut	CS	CS	316SS	316SS	CS	CS	CS	
25	Gland Nut	SS	SS	316SS	316SS	SS	SS	SS	
26	Gland O-Ring	Specify							
27	Lever Shaft	SS	SS	SS	SS	SS	SS	SS	
28	Lever Pin	CS	CS	SS	SS	CS	CS	CS	
29	Shaft O-Ring	Specify							
30	Lever	CS	CS	316SS	316SS	CS	CS	CS	

Materials: CS-Carbon Steel, SS-Stainless Steel, WCB-ASME SA216, CF8M-ASME SA351

FT, HC (Air) & HD (Liquid) Series Threaded Safety Relief Valves

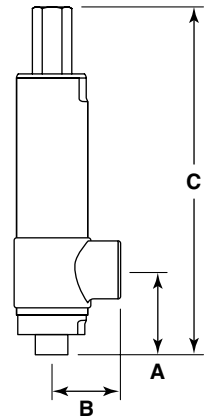
General Design Features

- > Disc & O-Ring soft seat design provides high flow
- > ASME semi-nozzle fixed blowdown valve
- > Bubble tight seal suitable for various relief applications
- > up to 80% of set pressure
- > Inlets from 3/4"-2" with set pressures to 3500 psi
- > ASME section VIII UV code stamped

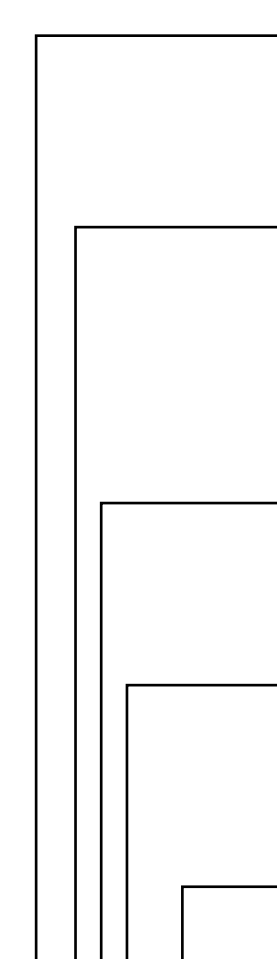
Series FT



Series HT



Part Number Codes



Inlet x Outlet/Orifice

Specify Model Number(Lower Right)

Soft Seat Seal

- C** • Neoprene
 - E** • EPDM
 - F** • Fluorocarbon (Viton®)
 - K** • Kalrez®
 - N** • Nitrile (Buna-N)
 - X** • Teflon® Seat w/ Viton® Seals
 - Z** • Kalrez® Seat w/ Viton® Seals
- O-Ring material selection is media and temperature dependent.

Material

- 0** • Std. Material
- 1** • Std. w/316SS Spring
- 3** • All 316SS
- 4** • All 316SS w/Inconel® Spring (NACE)
- 5** • 316SS Trim
- 6** • 316SS Trim w/Inconel® Spring (NACE)

Cap Type

- 0** • Closed Cap
 - L** • Open Lift Lever
 - P** • Packed Lift Lever
- Maximum temperature 450°F. ASME Code requires lift lever on water over 140°F and air service.

Spring Code

Consult Factory for Spring Chart.

7HC F O O / XX

Example

Dimensional Data (in.)

Model/Cap Type	Dimension (in.)			Weight (lbs.)	
	A	B	C		
FT	Closed Cap	3.88	2.13	14.88	15
	Lever Cap	3.88	2.13	16.88	17
HC	Closed Cap	3.88	3.00	16.63	25
	Lever Cap	3.88	3.00	18.88	27

Sizing Information

Orifice	Area	Gas KD	Liquid KD	Slope	Liq. Flow Factor
FT	0.306	0.87	—	4.88	—
HC/HD	0.785	0.88	0.60	12.63	17.6

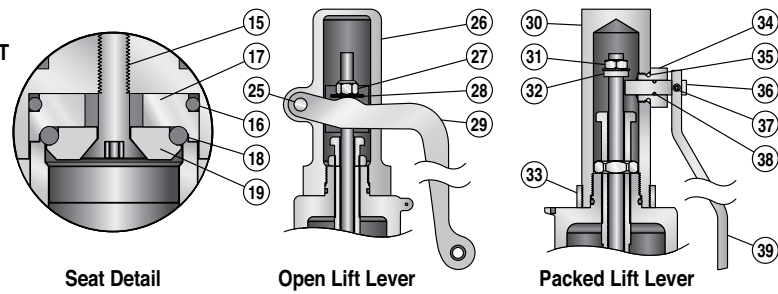
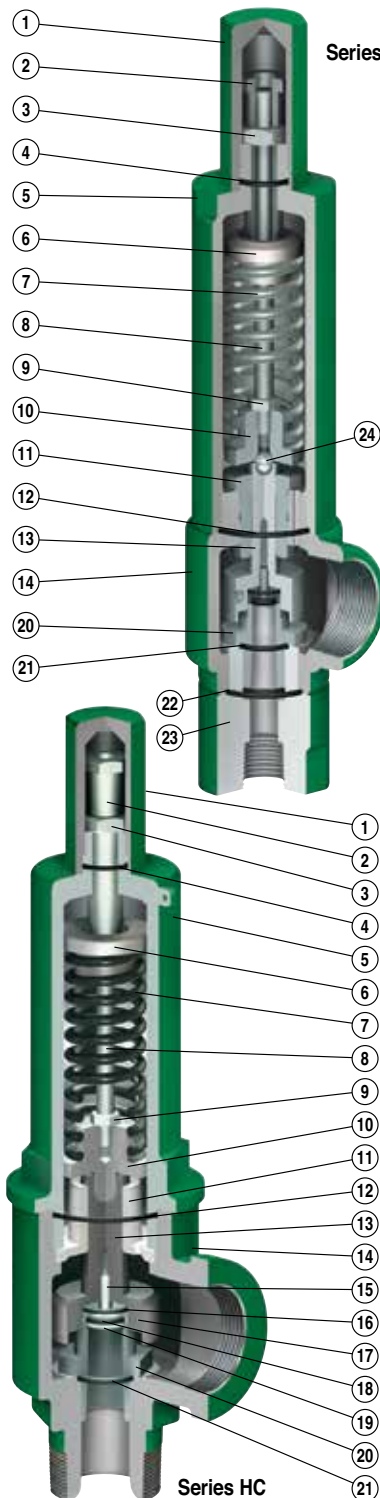
FT is air/gas service only.

Contact factory in order to receive sizing program and/or capacity charts.

Model Number

Model		Inletx Outlet		Orifice (sq. in.)	Max Set (psig)
Air	Liquid	MNPTx FNPT	FNPTx FNPT		
3FT	—	—	3/4 x 1 1/2	0.306	3500
4FT	—	1 x 1 1/2	—	0.306	1000
5FT	—	—	1 x 1 1/2	0.306	3500
5HC	5HD	—	1 1/4 x 2	0.785	2000
6HC	6HD	1 1/4 x 2	—	0.785	2000
7HC	7HD	2 x 2	—	0.785	2000

FT, HC (Air) & HD (Liquid) Series, Parts List & Material Selection



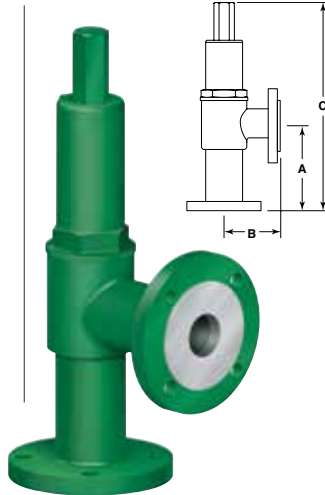
Index	Description	Material Code						
		0	1	3	4	5	6	7
1	Cap	CSZ	CSZ	316SS	316SS	CSZ	CSZ	CSZ
2	Adjusting Screw	CSZ	CSZ	316SS	316SS	316SS	316SS	CSZ
3	Adjusting Lock Nut	CSZ	CSZ	316SS	316SS	316SS	316SS	CSZ
4	Cap Seal	Determined By Soft Seat Selection						
5	Bonnet	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
6	Upper Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS
7	Spring	CS	316SS	316SS	Inconel®	316SS	Inconel®	Inconel®
8	Guide Stem	SS	SS	316SS	316SS	316SS	316SS	SS
9	Stem Lock nut	SS	SS	316SS	316SS	316SS	316SS	SS
10	Lower Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS
11	Spindle Guide	17-4PH	17-4PH	316SS	316SS	316SS	316SS	17-4PH
12	Bonnet Seal	Determined By Soft Seat Selection						
13	Spindle	SS	SS	316SS	316SS	316SS	316SS	SS
14	Body	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
15	Disk Retainer Screw	SS	SS	316SS	316SS	316SS	316SS	SS
16	Disk Seal	Determined By Soft Seat Selection						
17	Disk	SS	SS	316SS	316SS	316SS	316SS	SS
18	O-Ring Seat	Determined By Soft Seat Selection						
19	O-Ring Retainer	SS	SS	316SS	316SS	316SS	316SS	SS
20	Seat	SS	SS	316SS	316SS	316SS	316SS	SS
21	Seat Seal	Determined By Soft Seat Selection						
22	Body Seal (FT only)	Determined By Soft Seat Selection						
23	Base (FT only)	CS	CS	316SS	316SS	316SS	316SS	CS
24	Ball (FT only)	440C	440C	SS	SS	SS	SS	440C
Open Lift Lever								
25	Lever Pin	SS	SS	316SS	316SS	SS	SS	SS
26	Cap	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
27	Release Nut	CS	CS	316SS	316SS	CS	CS	CS
28	Release Washer	CS	CS	316SS	316SS	CS	CS	CS
29	Lever	CS	CS	316SS	316SS	CS	CS	CS
Packed Lift Lever								
30	Cap	CS	CS	316SS	316SS	CS	CS	CS
31	Release Nut	SS	SS	316SS	316SS	SS	SS	SS
32	Release Washer	SS	SS	316SS	316SS	SS	SS	SS
33	Lock Nut	CS	CS	316SS	316SS	CS	CS	CS
34	Gland Nut	SS	SS	316SS	316SS	SS	SS	SS
35	Gland O-Ring	Specify						
36	Lever Shaft	SS	SS	SS	SS	SS	SS	SS
37	Lever Pin	CS	CS	SS	SS	CS	CS	CS
38	Shaft O-Ring	Specify						
39	Lever	CS	CS	316SS	316SS	CS	CS	CS

Materials: CS-Carbon Steel, SS-Stainless Steel, WCB-ASME SA216, CF8M-ASME SA351, CSZ-Carbon Steel-Zinc Plated

HC (Air) & HD (Liquid) Series Flanged Safety Relief Valves

General Design Features

- > Disc & O-Ring soft seat design provides high flow
- > ASME semi-nozzle fixed blowdown valve
- > Bubble tight seal suitable for various relief applications
- > up to 80% of set pressure
- > Inlets from 3/4"-2" with set pressures to 3500 psi
- > ASME section VIII UV code stamped



Sizing Information

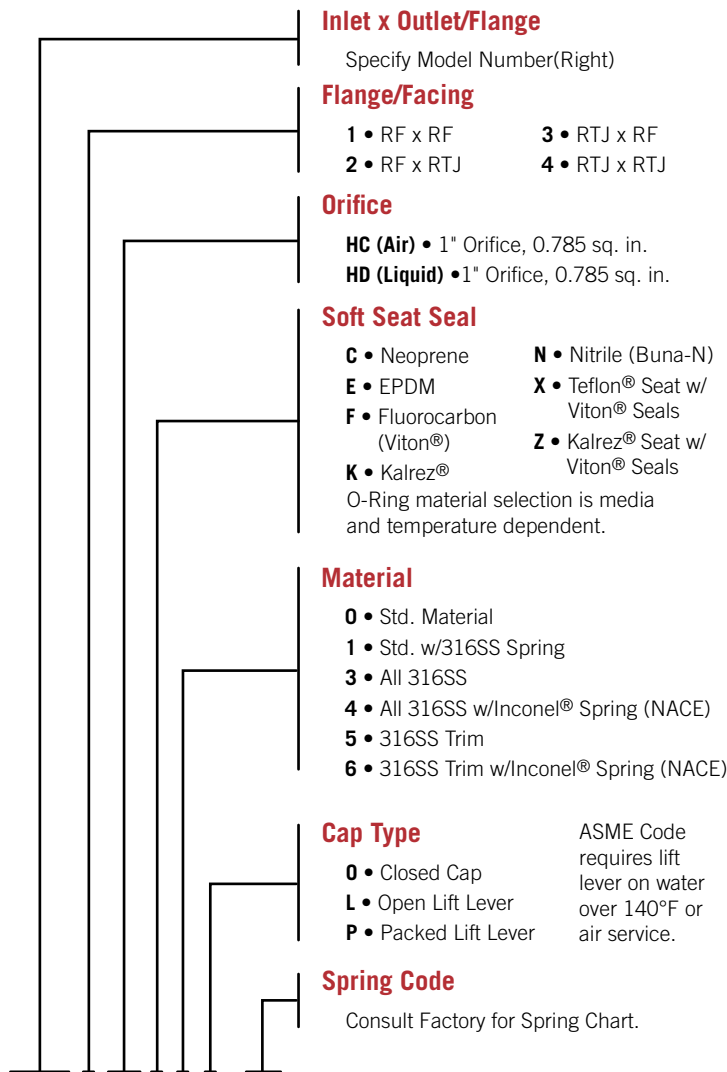
Orifice	Area	Gas KD	Liquid KD	Slope	Liq. Flow Factor
HC/HD	0.785	0.88	0.60	12.63	17.6

Contact factory in order to receive sizing program and/or capacity charts.

Model Number & Dimension Data

Model	Inlet x Outlet	Flange Inlet x Outlet	Dimension (in.)			Weight (lbs.)
			A	B	C	
20FL	1 1/2 x 1 1/2	150 x 150	6 3/4	4 7/8	18 7/8	35
22FL		300 x 150	6 3/4	4 7/8	18 7/8	37
21FL		150 x 150	6 3/4	4 7/8	18 7/8	37
23FL	1 1/2 x 2	300 x 150	6 3/4	4 7/8	18 7/8	39
24FL		600 x 150	6 3/4	4 7/8	18 7/8	42
25FL		600 x 300	6 3/4	4 7/8	18 7/8	45
28FL	1 1/2 x 2 1/2	900 x 150	6 3/4	4 7/8	18 7/8	53
29FL		900 x 300	6 3/4	4 7/8	18 7/8	55
26FL		600 x 150	6 3/4	4 7/8	18 7/8	48
30FL	2 x 2	150 x 150	6 7/8	6 1/8	19 5/8	47
36FL		600 x 150	6 7/8	6 1/8	19 5/8	48
37FL		600 x 300	6 7/8	6 1/8	19 5/8	49
38FL	2 x 2 1/2	600 x 600	6 7/8	6 1/8	19 5/8	53
44FL		1500 x 300	8 1/8	7 1/4	21	67
47FL		900 x 150	8 1/8	7 1/4	21	79
31FL	2 x 2 1/2	150 x 150	6 7/8	6 1/8	19 5/8	55
33FL		300 x 150	6 7/8	6 1/8	19 5/8	59
39FL		600 x 150	6 7/8	6 1/8	19 5/8	61
40FL	2 x 3	600 x 300	6 7/8	6 1/8	19 5/8	62
42FL		1500 x 300	8 1/8	7 1/4	21	67
45FL		1500 x 600	8 1/8	7 1/4	21	75
32FL	2 x 3	150 x 150	6 7/8	6 1/8	19 5/8	59
34FL		300 x 150	6 7/8	6 1/8	19 5/8	60
35FL		300 x 300	8 1/8	7 1/4	21	62
41FL	2 1/2 x 3	600 x 150	6 7/8	6 1/8	19 5/8	63
43FL		1500 x 300	8 1/8	7 1/4	21	76
46FL		900 x 150	8 1/8	7 1/4	21	77
50FL	3 x 3	150 x 150	8	7 1/4	21	69
51FL		150 x 150	8	7 1/4	21	71
52FL		300 x 150	8	7 1/4	21	73
53FL	3 x 3	600 x 150	8	7 1/4	21	75
54FL		600 x 300	8	7 1/4	21	75
60FL		150 x 150	8	7 1/4	21	71
61FL	3 x 4	300 x 150	8	7 1/4	21	73
62FL		300 x 300	8	7 1/4	21	75
63FL		600 x 150	8	7 1/4	21	77
64FL	3 x 4	600 x 300	8	7 1/4	21	79
65FL		150 x 150	8	7 1/4	21	77
66FL		300 x 150	8	7 1/4	21	79
67FL	600 x 150	8	7 1/4	21	81	

Part Number Codes



Inlet x Outlet/Flange

Specify Model Number(Right)

Flange/Facing

- 1 • RF x RF
- 2 • RF x RTJ
- 3 • RTJ x RF
- 4 • RTJ x RTJ

Orifice

- HC (Air) • 1" Orifice, 0.785 sq. in.
- HD (Liquid) • 1" Orifice, 0.785 sq. in.

Soft Seat Seal

- C • Neoprene
- E • EPDM
- F • Fluorocarbon (Viton®)
- K • Kalrez®
- N • Nitrile (Buna-N)
- X • Teflon® Seat w/ Viton® Seals
- Z • Kalrez® Seat w/ Viton® Seals

O-Ring material selection is media and temperature dependent.

Material

- 0 • Std. Material
- 1 • Std. w/316SS Spring
- 3 • All 316SS
- 4 • All 316SS w/Inconel® Spring (NACE)
- 5 • 316SS Trim
- 6 • 316SS Trim w/Inconel® Spring (NACE)

Cap Type

- 0 • Closed Cap
 - L • Open Lift Lever
 - P • Packed Lift Lever
- ASME Code requires lift lever on water over 140°F or air service.

Spring Code

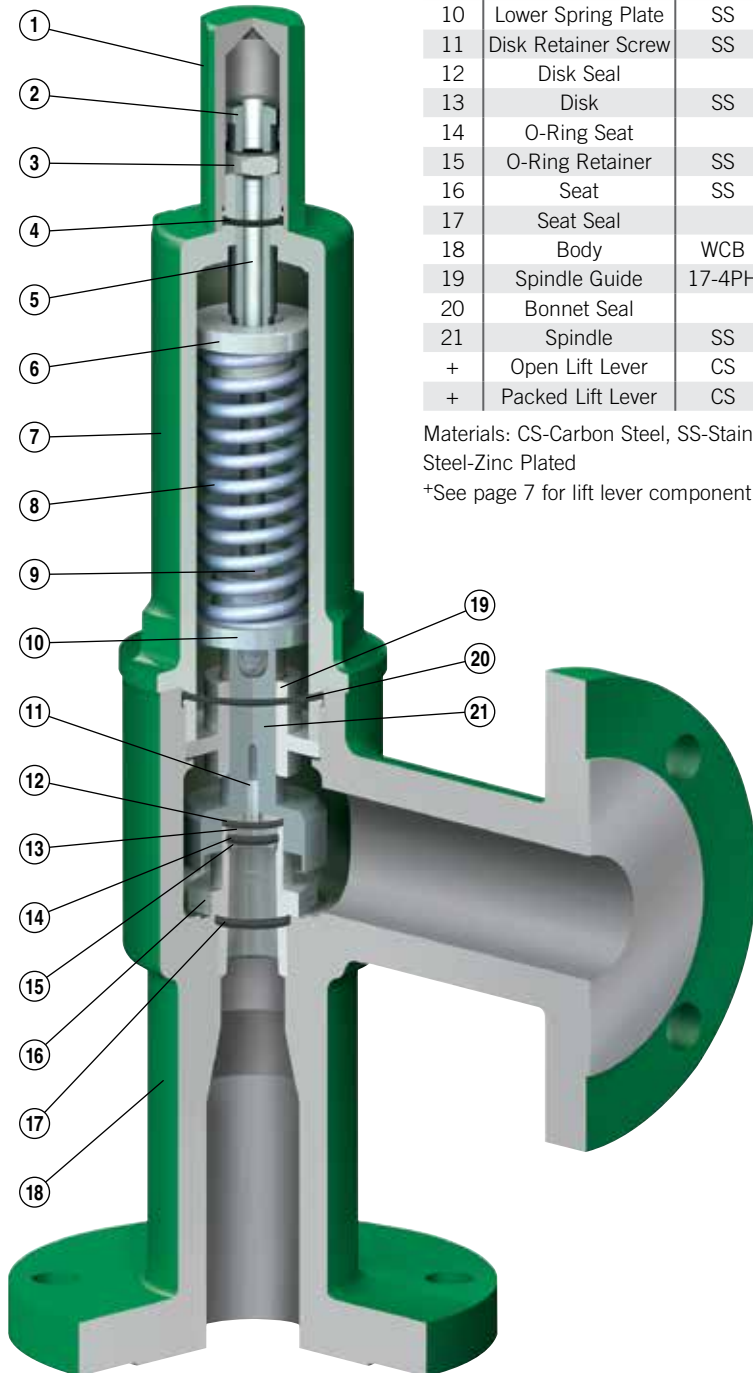
Consult Factory for Spring Chart.

20FL 1 CH F 0 0 / XX

Example

HC (Air) & HD (Liquid) Series, Parts List & Material Selection

Index	Description	Material Code						
		0	1	3	4	5	6	7
1	Cap	CSZ	CSZ	316SS	316SS	CSZ	CSZ	CSZ
2	Adjusting Screw	CSZ	CSZ	316SS	316SS	316SS	316SS	CSZ
3	Adjusting Lock Nut	CSZ	CSZ	316SS	316SS	316SS	316SS	CSZ
4	Cap Seal	Determined by Soft Seat Selection						
5	Guide Stem	SS	SS	316SS	316SS	316SS	316SS	SS
6	Upper Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS
7	Bonnet	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
8	Spring	CS	316 SS	316SS	Inconel®	316 SS	Inconel®	Inconel®
9	Stem Lock Nut	SS	SS	316SS	316SS	316SS	316SS	SS
10	Lower Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS
11	Disk Retainer Screw	SS	SS	316SS	316SS	316SS	316SS	SS
12	Disk Seal	Determined by Soft Seat Selection						
13	Disk	SS	SS	316SS	316SS	316SS	316SS	SS
14	O-Ring Seat	Determined by Soft Seat Selection						
15	O-Ring Retainer	SS	SS	316SS	316SS	316SS	316SS	SS
16	Seat	SS	SS	316SS	316SS	316SS	316SS	SS
17	Seat Seal	Determined by Soft Seat Selection						
18	Body	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
19	Spindle Guide	17-4PH	17-4PH	316SS	316SS	316SS	316SS	17-4PH
20	Bonnet Seal	Determined by Soft Seat Selection						
21	Spindle	SS	SS	316SS	316SS	316SS	316SS	SS
+	Open Lift Lever	CS	CS	316SS	316SS	316SS	316SS	CS
+	Packed Lift Lever	CS	CS	316SS	316SS	316SS	316SS	CS



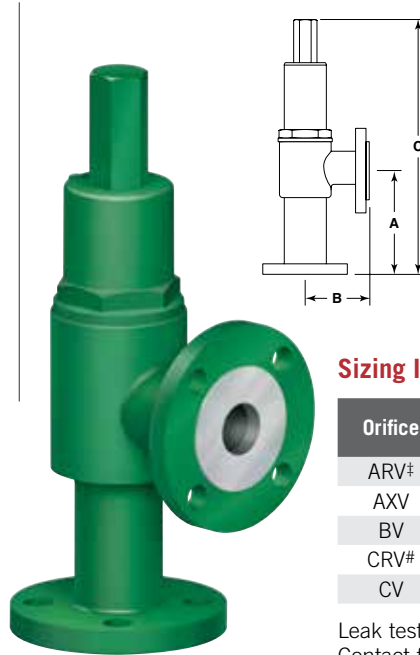
Materials: CS-Carbon Steel, SS-Stainless Steel, WCB-ASME SA216, CF8M-ASME SA351, CSZ-Carbon Steel-Zinc Plated

*See page 7 for lift lever component identification and seat detail.

Flanged Series Ball & Seat Safety Relief Valve

General Design Features

- > 1" - 3" inlet sizes
- > Incorporates Hydroseal's "self-seeking soft seat" design
- > Operating temperatures to 600°F
- > Soft seat option provides primary seal with a metal-to-metal secondary seal
- > ASME section VIII UV code stamped for air & gas
- > Available for non-code liquid applications



Sizing Information

Orifice	Area	Gas KD	Liquid KD	Slope	Liq. Flow Factor
ARV‡	0.196	0.31	0.13	1.11	1.0
AXV	0.248	0.25	0.16	1.15	1.5
BV	0.441	0.40	0.14	3.22	2.4
CRV#	0.785	0.22	0.16	3.09	4.9
CV	0.785	0.22	0.16	3.13	4.9

Leak tested in accordance with factory standard.
Contact factory in order to receive sizing program and/or capacity charts.

Water capacities determined at 25% over set pressure.

#Non-code below 18 psi

‡Non-code below 21 psi

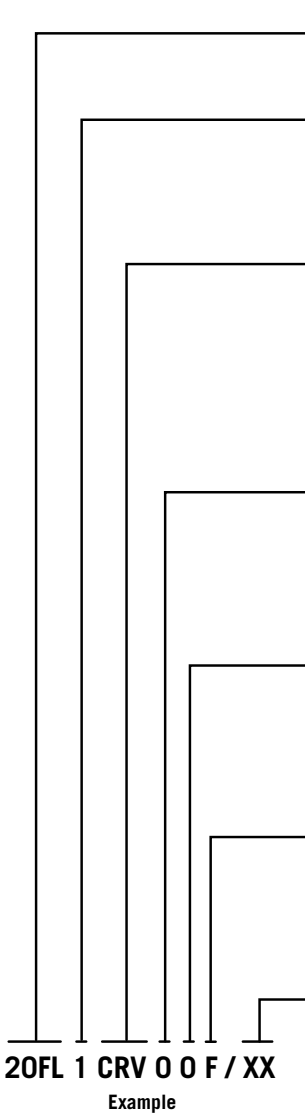
Model Number & Dimension Data

Model	Inlet x Outlet	Flange Inlet x Outlet	Dimension (in.)			Weight (lbs.)
			A	B	C	
1FL		150 x 150	5 1/2	4 5/8	12 3/4	20
5FL	1 x 1	600 x 150	5 1/2	4 5/8	12 3/4	26
6FL		600 x 600	5 1/2	4 5/8	12 3/4	28
2FL		150 x 150	5 1/2	4 5/8	12 3/4	24
3FL	1 x 1 1/2	300 x 150	5 1/2	4 5/8	12 3/4	24
4FL		600 x 300	5 1/2	4 5/8	12 3/4	28
7FL		1500 x 300	5 1/2	4 5/8	12 3/4	28
8FL		150 x 150	5 1/2	4 5/8	12 3/4	22
9FL	1 x 2	300 x 150	5 1/2	4 5/8	12 3/4	26
10FL		600 x 150	5 1/2	4 5/8	12 3/4	28
11FL		600 x 300	5 1/2	4 5/8	12 3/4	30
13FL		900 x 150	5 1/2	4 5/8	12 3/4	31
14FL		900 x 300	5 1/2	4 5/8	12 3/4	34
20FL	1 1/2 x 1 1/2	150 x 150	6 3/4	4 7/8	15 1/2	32
22FL		300 x 150	6 3/4	4 7/8	15 1/2	34
21FL	1 1/2 x 2	150 x 150	6 3/4	4 7/8	15 1/2	34
23FL		300 x 150	6 3/4	4 7/8	15 1/2	36
24FL		600 x 150	6 3/4	4 7/8	15 1/2	39
25FL		600 x 300	6 3/4	4 7/8	15 1/2	42
28FL		900 x 150	6 3/4	4 7/8	15 1/2	50
29FL		900 x 300	6 3/4	4 7/8	15 1/2	52
26FL	1 1/2 x 2 1/2	600 x 150	6 3/4	4 7/8	15 1/2	45
30FL	2 x 2	150 x 150	6 7/8	6 1/8	16 1/4	44
36FL		600 x 150	6 7/8	6 1/8	16 1/4	45
37FL		600 x 300	6 7/8	6 1/8	16 1/4	46
38FL		600 x 600	6 7/8	6 1/8	16 1/4	50
44FL		1500 x 300	8 1/8	7 1/4	17 5/8	64
44FL		1500 x 300	8 1/8	7 1/4	17 5/8	64
47FL		900 x 300	8 1/8	7 1/4	17 5/8	76

Model	Inlet x Outlet	Flange Inlet x Outlet	Dimension (in.)			Weight (lbs.)
			A	B	C	
31FL	2 x 2 1/2	150 x 150	6 7/8	6 1/8	16 1/4	52
33FL		300 x 150	6 7/8	6 1/8	16 1/4	56
39FL		600 x 150	6 7/8	6 1/8	16 1/4	58
40FL		600 x 300	6 7/8	6 1/8	16 1/4	59
42FL		1500 x 300	8 1/8	7 1/4	17 5/8	64
45FL		1500 x 600	8 1/8	7 1/4	17 5/8	72
32FL	2 x 3	150 x 150	6 7/8	6 1/8	16 1/4	56
34FL		300 x 150	6 7/8	6 1/8	16 1/4	57
35FL		300 x 300	8 1/8	7 1/4	17 5/8	67
41FL		600 x 150	6 7/8	6 1/8	16 1/4	68
43FL		1500 x 300	8 1/8	7 1/4	17 5/8	73
46FL		900 x 150	8 1/8	7 1/4	17 5/8	74
50FL	2 1/2 x 2 1/2	150 x 150	8	7 1/4	17 5/8	66
51FL	2 1/2 x 3	150 x 150	8	7 1/4	17 5/8	68
52FL		300 x 150	8	7 1/4	17 5/8	70
53FL		600 x 150	8	7 1/4	17 5/8	72
54FL		600 x 300	8	7 1/4	17 5/8	72
60FL	3 x 3	150 x 150	8	7 1/4	17 5/8	68
61FL		300 x 150	8	7 1/4	17 5/8	70
62FL		300 x 300	8	7 1/4	17 5/8	72
63FL		600 x 150	8	7 1/4	17 5/8	74
64FL		600 x 300	8	7 1/4	17 5/8	76
65FL		150 x 150	8	7 1/4	17 5/8	74
66FL	3 x 4	300 x 150	8	7 1/4	17 5/8	76
67FL		600 x 150	8	7 1/4	17 5/8	78

Flanged Safety Relief Valve, Parts List & Material Selection

Part Number Codes



Inlet x Outlet/ Flange

Specify Model Number(Page 10)

Flange/Facing

- 1 • RF x RF
- 2 • RF x RTJ
- 3 • RTJ x RF
- 4 • RTJ x RTJ

Orifice

- ARV • 1/2" Soft Seat
- AXV • 9/16"
- BV* • 3/4"
- CRV* • 1" Soft Seat
- CV* • 1"

Not code for liquid service.

*Not available on models 1FL thru. 14FL.

Material

- 0 • Std. Material
- 1 • Std. w/316SS Spring & Stellite® Ball
- 3 • All 316SS w/Stellite® Ball
- 4 • All 316SS w/Inconel® Spring & w/Stellite® Ball (NACE)
- 5 • 316SS Trim w/Stellite® Ball
- 6 • 316SS Trim w/Inconel® Spring & Stellite® Ball (NACE)
- 7 • Std. Material w/Inconel® Spring

Cap Type

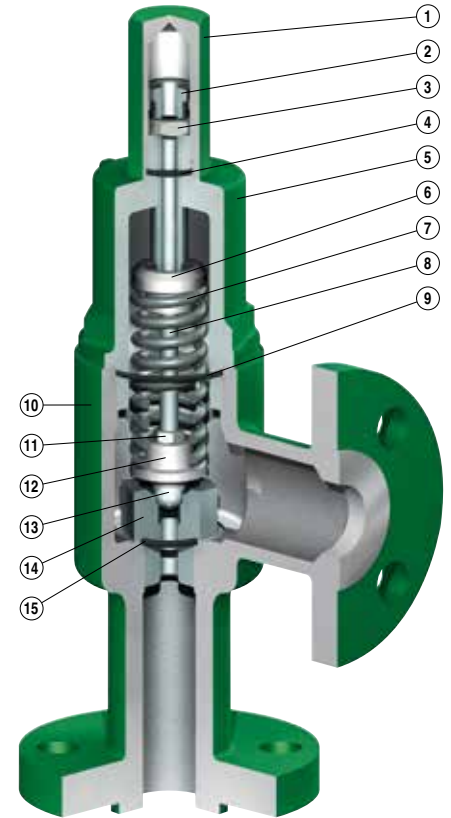
- 0 • Closed Cap
 - L • Open Lift Lever
 - P • Packed Lift Lever
- ASME Code requires lift lever on water over 140°F and air.

O-Ring/Soft Seat

- 0 • Nitrile (Buna-N) O-Ring w/Viton® Soft Seat & Body/Seat Seal
 - C • Neoprene
 - E • EPDM
 - F • Fluorocarbon (Viton®)
 - K • Kalrez® O-Ring w/Viton® Soft Seat
 - M • Metal Gasket (Bonnet & Cap Seals) Kalrez® Body/Seat Seal
 - N • Nitrile (Buna-N)
- Elastomer selection is media and temperature dependent.

Spring Code

Consult Factory for Spring Chart.



Index	Description	Material Code						
		0	1	3	4	5	6	7
1	Valve Cap	CS	CS	316SS	316SS	CS	CS	CS
2	Adjusting Screw	CS	CS	316SS	316SS	316SS	316SS	CS
3	Adjusting Lock Nut	SS	SS	316SS	316SS	316SS	316SS	SS
4	Cap Seal	Specify						
5	Bonnet	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
6	Upper Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS
7	Spring	SS	316SS	316SS	Inconel®	316SS	Inconel®	Inconel®
8	Guide Stem	SS	SS	316SS	316SS	316SS	316SS	SS
9	Body Bonnet Seal	Specify						
10	Body	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
11	Stem Lock Nut	SS	SS	316SS	316SS	316SS	316SS	SS
12	Lower Spring Plate	SS	SS	316SS	316SS	316SS	316SS	SS
13	Ball	440C	Stellite®	Stellite®	Stellite®	Stellite®	Stellite®	440C
14	Seat	SS	SS	316SS	316SS	316SS	316SS	SS
15	Body/Seat Seal	Specify						
+	Open Lift Lever	CS	CS	Cast SS	Cast SS	CS	CS	CS
+	Packed Lift Lever	CS	CS	Cast SS	Cast SS	CS	CS	CS

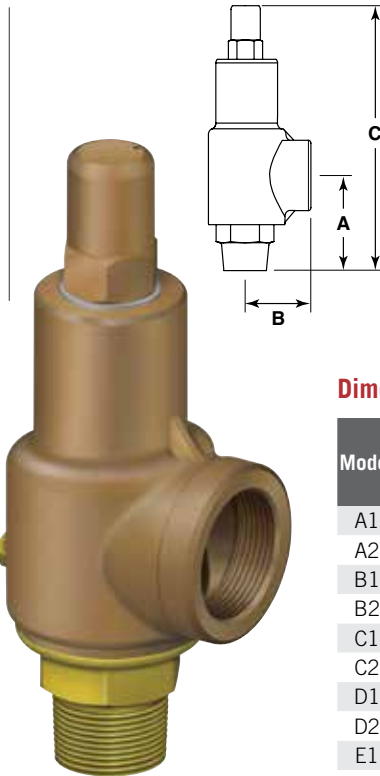
Materials: CS-Carbon Steel, SS-Stainless Steel, WCB-ASME SA216, CF8M-ASME SA351

*See page 5 for lift lever component identification and seat detail.

Brass Safety Relief Valve

General Design Features

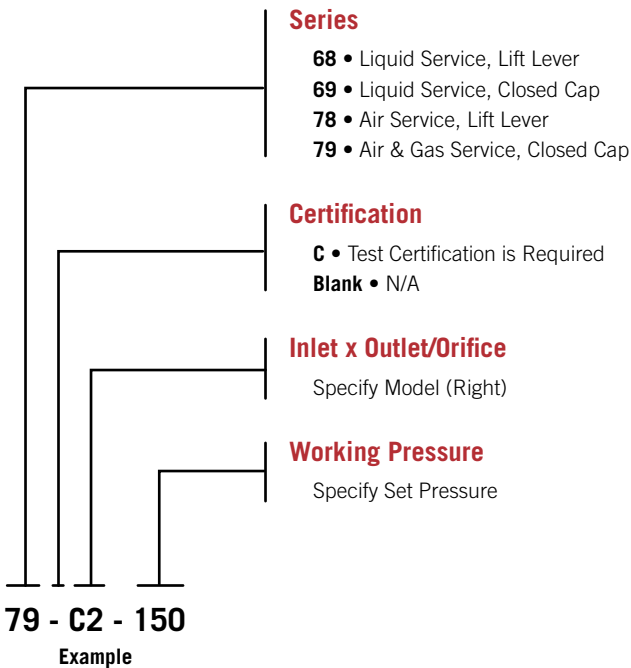
- > For air, gas and liquids
- > Pressures up to 300 psi
- > Temperatures to 350°F
- > ½" - 3" inlet sizes



Dimensional Data (in.)

Model	Dimension (in.)				Weight (lbs.)	
	A	B	68 & 78	69 & 79	68 & 78	69 & 79
A1	2 1/8	1 3/8	6 1/2	5 7/8	3	2
A2	2 1/8	1 3/8	6 1/2	5 7/8	3	2
B1	2 3/8	1 3/8	6 7/8	6	3	2
B2	2 3/8	1 3/8	6 7/8	6	3	2
C1	2 3/4	1 7/8	7 1/2	7 1/2	4	3
C2	2 3/4	1 7/8	7 1/2	7 1/2	4	3
D1	3 1/4	2	8 1/2	8 1/2	5	4
D2	3 1/4	2	8 1/2	8 1/2	5	4
E1	3 1/2	2 1/2	9 3/4	9 3/4	7	6
E2	3 1/2	2 1/2	9 3/4	9 3/4	7	6
F1	4	2 5/8	11 1/8	11 1/8	10	9
F2	4	2 5/8	11 1/8	11 1/8	10	9
G1	4 3/4	3 1/8	13 1/4	12	22	21
G2	4 3/4	3 1/8	13 1/4	12	22	21
H1	5 1/8	4 3/8	15	13 1/2	23	22

Part Number Codes

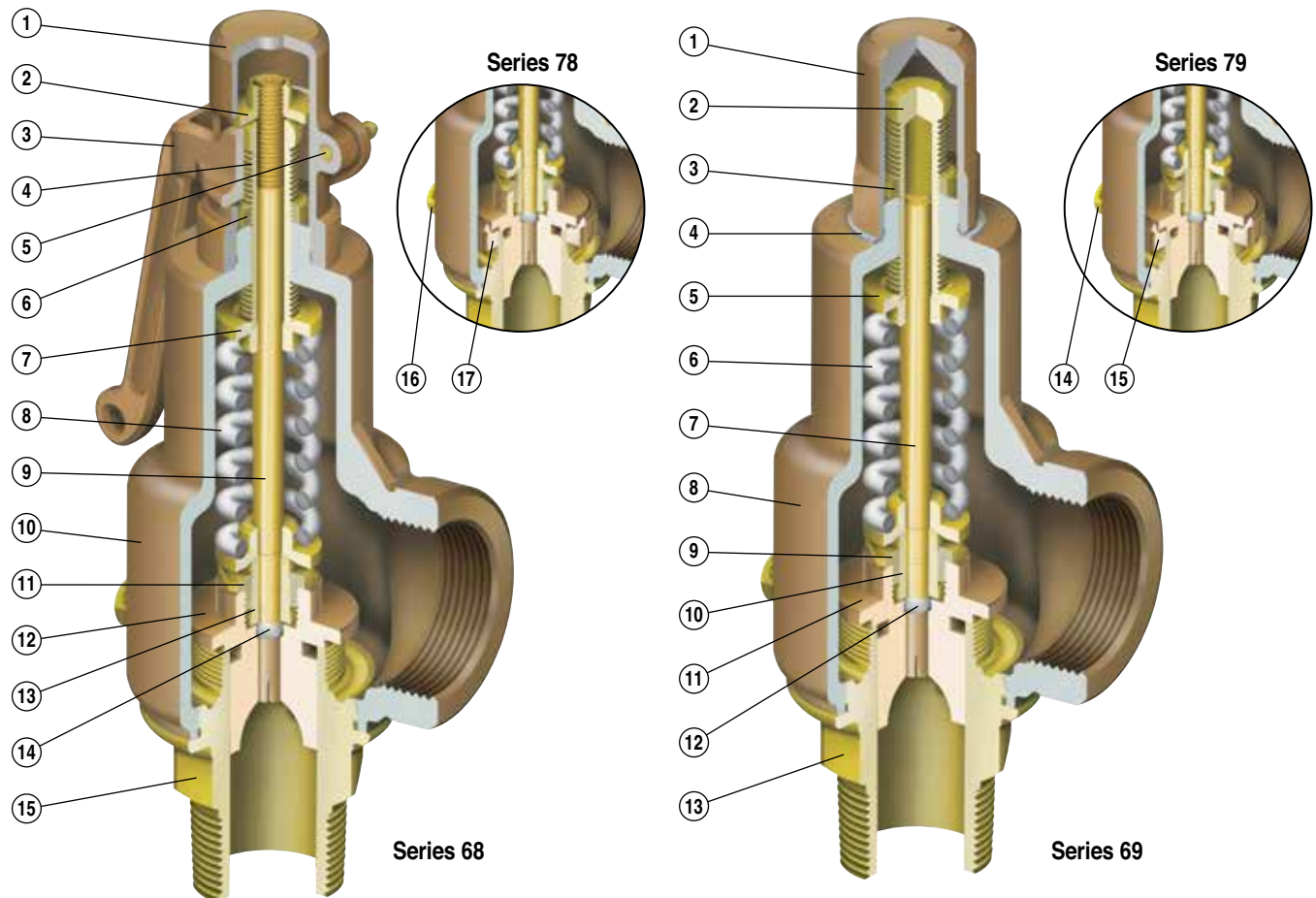


Model Number & Dimension Data

Model	Inlet x Outlet FNPT x FNPT	Orifice Diameter	Max Set (psi)
A1	½ x ½	½	300
A2	½ x ¾	½	300
B1	¾ x ¾	¾	300
B2	¾ x 1	¾	300
C1	1 x 1	1	300
C2	1 x 1 ¼	1	300
D1	1 ¼ x 1 ¼	1 ¼	300
D2	1 ¼ x 1 ½	1 ¼	300
E1	1 ½ x 1 ½	1 ½	300
E2	1 ½ x 2	1 ½	300
F1	2 x 2	2	300
F2	2 x 2 ½	2	300
G1	2 ½ x 2 ½	2 ½	300
G2	2 ½ x 3	2 ½	300
H1	3 x 3	3	300

Contact factory in order to receive capacity charts.

Brass Safety Relief Valve, Parts List & Material Selection



Series 68 & 78

Index	Description	Material
1	Hood	Bronze
2	Lifter Nut	Brass
3	Lift Lever	Bronze
4	Pressure Screw	Brass
5	Lift Lever Pin	Brass
6	Lock Nut	Brass
7	Spring Plate	Brass
8	Spring	Stainless Steel
9	Spring Post	Brass
10	Bonnet	Bronze
11	Disc Nut	Brass
12	Disc	Bronze
13	Spring Post Support	Brass
14	Ball Bearing	Stainless Steel
15	Body	Brass
16*	Regulator Lock Screw	Brass
17*	Regulator Ring	Bronze

*Series 78 only.

Series 69 & 79

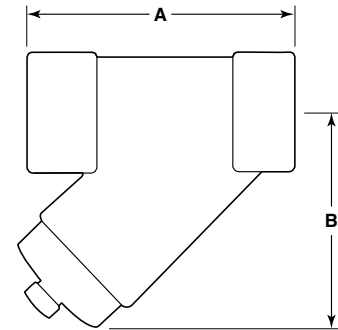
Index	Description	Material
1	Hood	Bronze
2	Pressure Screw	Brass
3	Lock Nut	Brass
4	Gasket	Teflon®
5	Spring Plate	Brass
6	Spring	Stainless Steel
7	Spring Post	Brass
8	Bonnet	Bronze
9	Disc Nut	Brass
10	Spring Post Support	Brass
11	Disc	Bronze
12	Ball Bearing	Stainless Steel
13	Body	Brass
14*	Regulator Lock Screw	Brass
15*	Regulator Ring	Bronze

*Series 79 only.

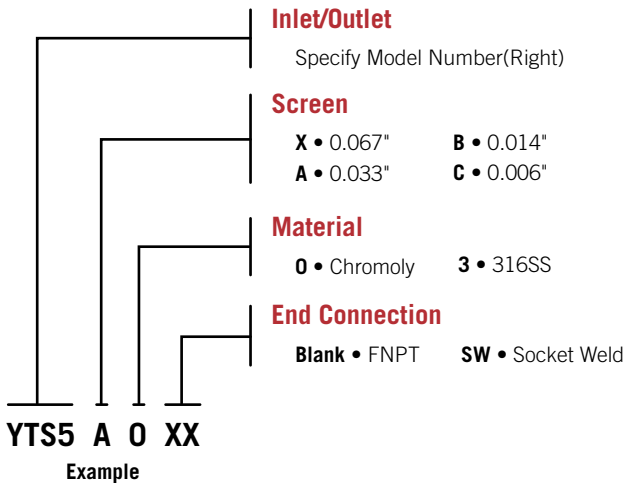
High Pressure “Y” Strainer

General Design Features

- > Designed for high pressure applications requiring an easy maintenance, collapse resistant screen
- > In-line cleanout access
- > Pressures to 3000 psi
- > ½”-2” FNPT & socket weld
- > Spiral wound stainless steel screen
- > Operating temperatures to 400°F



Part Number Codes



Model Number & Dimension Data

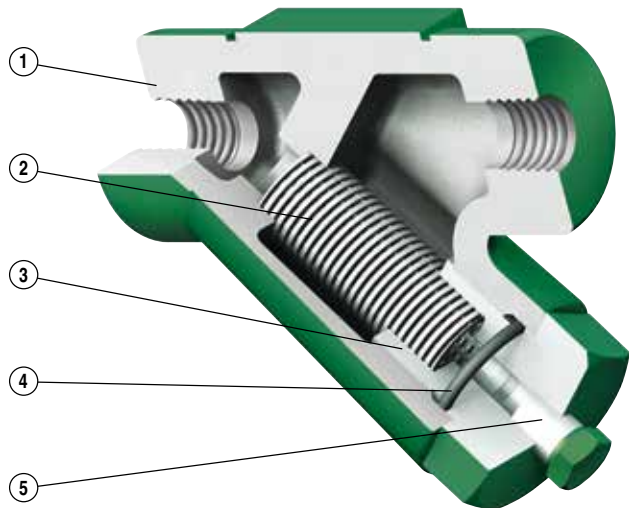
Model	Inlet/Outlet	Max Set (psig)	Dimension (in.)		Clean Out Plug (in.)	Weight (lbs.)
			A	B		
YTS1	1/2 FNPT	3000	5 1/8	4	1/4	6
YTS3	3/4 FNPT	3000	5 1/8	4	1/4	6
YTS5	1 FNPT	3000	5 1/8	4	1/4	6
YTS8	1 1/2 FNPT	3000	7 1/2	5 3/8	3/4	17
YTS10	2 FNPT	3000	9 5/8	6 3/8	3/4	30

Screen Data

Screen	Mesh	Inches	Microns
X	10	.067	1690
A	20	.033	840
B	40	.014	355
C	100	.006	149

Parts List

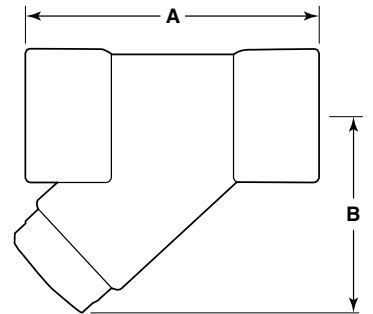
Index	Description	Material Code	
		0	3
1	Body	ASME SA487 4A	CF8M
2	Screen	304SS	304SS
3	Cap	CS	316SS
4	O-Ring	Viton®	Viton®
5	Plug	CS	316SS



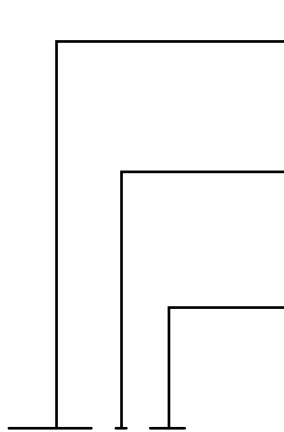
High Pressure Check Valve

General Design Features

- > Designed for applications requiring a high pressure easy-to-maintain steel check valve
- > Easy service cartridge barrel design
- > Pressures to 3000 psi
- > Operating temperatures to 400°F
- > ½"-2" FNPT & socket weld



Part Number Codes



CV100 0 XX

Example

Inlet/Outlet

Specify Model Number(Right)

Material

- 0** • Standard
 - 3** • All316SS
- Minimum Opening Pressure is 5-7 psi.

End Connection

- Blank** • FNPT
- SW** • Socket Weld

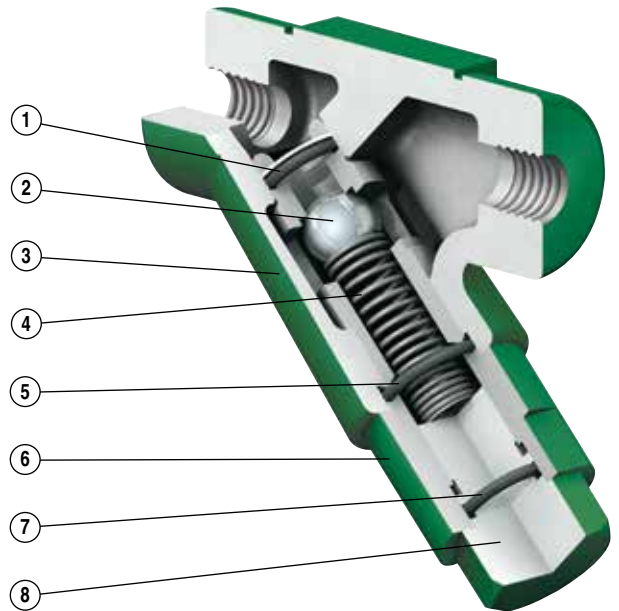
Model Number & Dimension Data

Model	Inlet/Outlet	Max Set (psig)	Dimension (in.)		Weight (lbs.)
			A	B	
CV50	½ FNPT	3000	5 1/8	4 7/8	7
CV75	¾ FNPT	3000	5 1/8	4 7/8	7
CV100	1 FNPT	3000	5 1/8	4 7/8	7
CV150	1 ½ FNPT	3000	7 1/2	5 3/8	21
CV200	2 FNPT	3000	9 5/8	6 3/4	33

Parts List

Index	Description	Material Code	
		0	3
1	Barrel Seal	Viton®	Viton®
2	Ball	440 C	SS
3	Body	ASME SA487 4A	CF8M
4	Spring	316SS	316SS
5	Body Seal*	Viton®	Viton®
6	Barrel	17-4PH	316SS
7	Cap Seal	Viton®	Viton®
8	Cap	4140	316SS

*Not used on CV150 & CV200.





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