

Universal  
Components  
Inc.



Automated  
Valves



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# Pneumatic Actuated Valve Ordering Matrix

## Pneumatic Actuator Aluminum, Standard

- PD** = Double Acting
- PC** = Spring Closed
- PO** = Spring Open
- \***PS** = Spring Return

## Nickel, *Optional*    Stainless, *Optional*

- |                              |                              |
|------------------------------|------------------------------|
| <b>NPD</b> = Double Acting   | <b>SPD</b> = Double Acting   |
| <b>NPC</b> = Spring Closed   | <b>SPC</b> = Spring Closed   |
| <b>NPO</b> = Spring Open     | <b>SPO</b> = Spring Open     |
| * <b>NPS</b> = Spring Return | * <b>SPS</b> = Spring Return |

\* 3-Way Valves Only

## Ball Valves

- B2F** = Brass 2pc. Full Port, 600PSI
  - B2S TT-TL** = Brass 3-Way Std. Port, 600PSI
  - S2F** = Stainless Steel 2pc. Full Port, 1000PSI
  - S2S** = Stainless Steel 2pc. Std Port, 2000PSI
  - S2S TT-TL** = Stainless Steel 3-Way, 1500PSI
  - S6M** = Stainless Steel Seal Welded, 6000PSI
  - 2F3M** = NACE MR-0175, 3000PSI
  - S3F** = Stainless Steel 3pc. 1000PSI
  - SF22** = Fire Safe, 2250PSI
  - S3FV** = Stainless Steel 2-Way 3-Piece V-Cut
  - STC** = Sanitary Tri-Clamp, 2-Way
  - STC TT-TL** = Sanitary Tri-Clamp, 3-Way
  - CFM** = Carbon Steel 2-Way Hydraulic High Pressure
  - CFM TT-TL** = Carbon Steel 3-Way Hydraulic High Pressure
  - FF150-300** = Flanged Valve, ANSI Class 150-300
  - FF150 TT-TL** = Flanged Valve, ANSI Class 150, 3-Way
  - FF150DM** = Flanged Valve, ANSI Class 150, Direct Mount
  - WFF150-300** = Wafer Valve, ANSI Class 150-300
- Reference Butterfly Matrix for Industrial and Sanitary Butterfly

**PD / B2S - 16 TL C1 S2 M3**

### Valve Size

- 2 = 1/4"
- 3 = 3/8"
- 4 = 1/2"
- 6 = 3/4"
- 8 = 1"
- 10 = 1-1/4"
- 12 = 1-1/2"
- 16 = 2"
- 20 = 2-1/2"
- 24 = 3"
- 32 = 4"
- 48 = 6"
- 64 = 8"

T = 3-Way Valve

### 3-Way Port

- L = L-port
- T = T-port

### Positioner

- M3** = 3-15 PSI
- M4** = 4-20 mA

### Namur Solenoid

- | Conduit             | Din                 |
|---------------------|---------------------|
| <b>C1</b> = 110VAC  | <b>D1</b> = 110VAC  |
| <b>C2</b> = 24VDC   | <b>D2</b> = 24VDC   |
| <b>C12</b> = 12VDC  | <b>D12</b> = 12VDC  |
| <b>C22</b> = 220VAC | <b>D22</b> = 220VAC |
| <b>C24</b> = 24VAC  | <b>D24</b> = 24VAC  |

### Explosion Proof

- EX1** = 110VAC
- EX2** = 24VDC
- EX12** = 12VDC
- EX22** = 220VAC

### Limit Switch

- S2** = IP67/NEMA 4X
- S4** = NEMA 4
- S7** = NEMA 7



# Electric Actuated Valve Ordering Matrix

## Ball Valves

- B2F** = Brass 2pc. Full Port, 600PSI
- B2S TT-TL** = Brass 3-Way Std. Port, 600PSI
- S2F** = Stainless Steel 2pc. Full Port, 1000PSI
- S2S** = Stainless Steel 2pc. Std Port, 2000PSI
- S2S TT-TL** = Stainless Steel 3-Way, 1500PSI
- S6M** = Stainless Steel Seal Welded, 6000PSI
- 2F3M** = NACE MR-0175, 3000PSI
- S3F** = Stainless Steel 3pc. 1000PSI
- SF22** = Fire Safe, 2250PSI
- S3FV** = Stainless Steel 2-Way 3-Piece V-Cut
- STC** = Sanitary Tri-Clamp, 2-Way
- STC TT-TL** = Sanitary Tri-Clamp, 3-Way
- CFM** = Carbon Steel 2-Way Hydraulic High Pressure
- CFM TT-TL** = Carbon Steel 3-Way Hydraulic High Pressure
- FF150-300** = Flanged Valve, ANSI Class 150-300
- FF150 TT-TL** = Flanged Valve, ANSI Class 150, 3-Way
- FF150DM** = Flanged Valve, ANSI Class 150, Direct Mount
- WFF150-300** = Wafer Valve, ANSI Class 150-300

Referance Butterfly Matrix for Industrial and Sanitary Butterfly

## Voltage

- E115V** = 115 Volts AC
- E240V** = 240 Volts AC
- E012D** = 12 Volts DC
- E024D** = 24 Volts DC

**E115V** - **42** **M** - **S3FV30** - **16**

## Options

- SR** = Spring Return Fail Safe C/F
- 42** = 4-20mA Positioning Circuit Board w/Feedback
- N7** = NEMA 7 Enclosure C/F
- SBO** = Battery Back-Up Fail Open
- SBC** = Battery Back-Up Fail Close

## Actuator Housing

- None** = ABS
- M** = Aluminum

## Valve Size

- 1** = 1/8"
- 2** = 1/4"
- 3** = 3/8"
- 4** = 1/2"
- 6** = 3/4"
- 8** = 1"
- 10** = 1-1/4"
- 12** = 1-1/2"
- 16** = 2"
- 20** = 2-1/2"
- 24** = 3"
- 32** = 4"
- 48** = 6"
- 64** = 8"



## B2F Series Pneumatic Actuated Valves



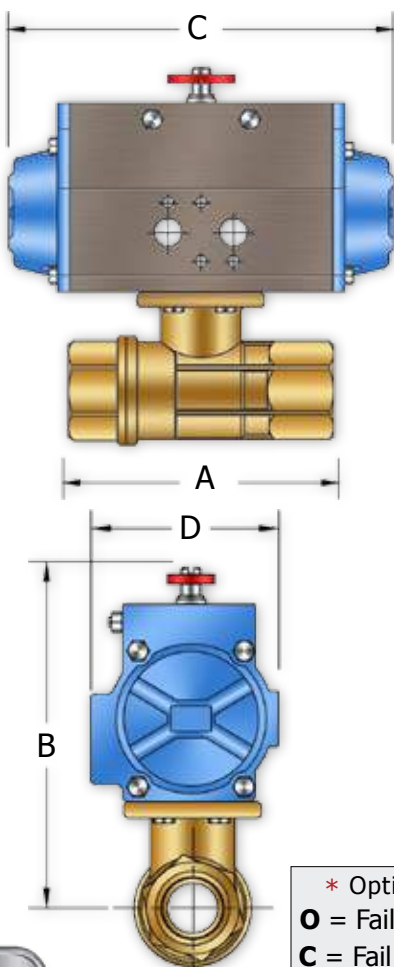
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- 2-Way Brass Full Port
- 29 Hg-600 PSI W.O.G. Cold Non-Shock
- 0°F to 366°F



\* Option  
**O** = Fail open  
**C** = Fail Close

### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D
PD/B2F-2	1/4"	DA32	2.64	3.82	4.33	2.02
PD/B2F-3	3/8"	DA32	2.64	3.82	4.33	2.02
PD/B2F-4	1/2"	DA32	2.64	3.82	4.33	2.02
PD/B2F-6	3/4"	DA32	3.00	3.90	4.33	2.02
PD/B2F-8	1"	DA32	3.35	4.33	4.33	2.02
PD/B2F-10	1-1/4"	DA32	3.66	4.47	4.33	2.02
PD/B2F-12	1-1/2"	DA52	4.13	6.15	5.55	2.80
PD/B2F-16	2"	DA52	4.80	6.51	5.55	2.80
PD/B2F-20	2-1/2"	DA63	6.10	7.76	6.46	3.17
PD/B2F-24	3"	DA63	6.89	8.13	6.46	3.17
PD/B2F-32	4"	DA85	8.03	9.51	9.47	4.17

### Spring Return Dimensions:

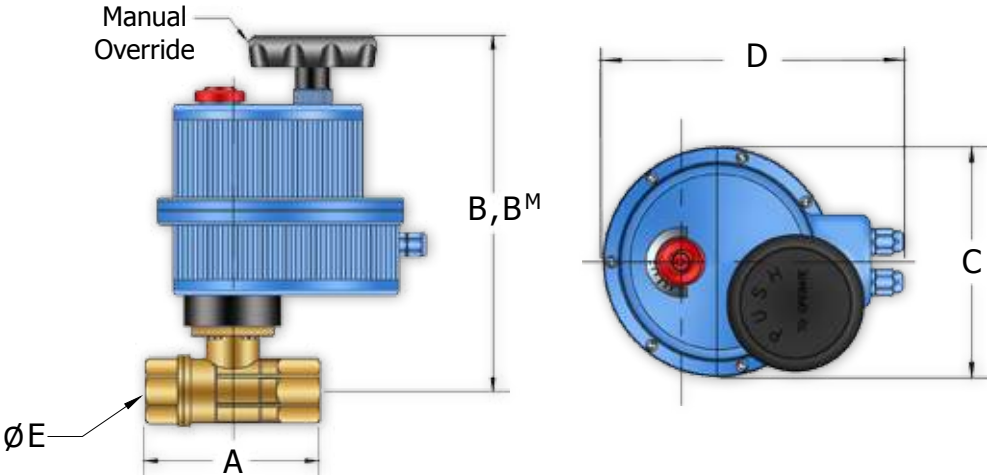
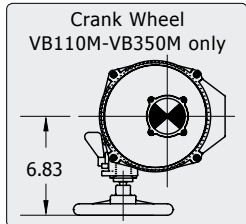
Part No.	Size	Actuator	A	B	C	D
P*/B2F-2	1/4"	SR52	2.64	4.91	5.88	2.82
P*/B2F-3	3/8"	SR52	2.64	4.91	5.88	2.82
P*/B2F-4	1/2"	SR52	2.64	4.91	5.88	2.82
P*/B2F-6	3/4"	SR52	3.00	4.99	5.88	2.82
P*/B2F-8	1"	SR52	3.35	5.42	5.88	2.82
P*/B2F-10	1-1/4"	SR52	3.66	5.56	5.88	2.82
P*/B2F-12	1-1/2"	SR63	4.13	6.80	6.61	3.29
P*/B2F-16	2"	SR63	4.80	7.64	6.61	3.29
P*/B2F-20	2-1/2"	SR85	6.10	8.76	9.47	4.17
P*/B2F-24	3"	SR85	6.89	8.40	9.47	4.17
P*/B2F-32	4"	SR100	8.03	9.28	10.83	4.84



# B2F Series Electric Actuated Valves



- ## Features:
- Actuator**
- VO Self Extinguishing Class Techno-Polymer
  - Metal Available on request
  - All Actuators IP67 (VB015 IP65)
  - Heater Thermostat Standard
  - Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- Valve**
- 2-Way Brass Full Port
  - 29 Hg-600 PSI W.O.G. Cold Non-Shock
  - 0°F to 366°F



Dimensions:

\*\*\* Actuator Voltage

**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC

B<sup>M</sup> = Optional Metal Actuator

Part No.	Size	Actuator		A	B	C	D	E	B <sup>M</sup>
		Standard	Optional						
E***/B2F-2	1/4"	VB015	VB030M	2.64	6.85	4.84	6.41	0.39	9.31
E***/B2F-3	3/8"	VB015	VB030M	2.64	6.85	4.84	6.41	0.39	9.31
E***/B2F-4	1/2"	VB015	VB030M	2.64	6.85	4.84	6.41	0.59	9.31
E***/B2F-6	3/4"	VB015	VB030M	3.00	6.93	4.84	6.41	0.78	9.39
E***/B2F-8	1"	VB015	VB030M	3.35	7.36	4.84	6.41	0.98	9.82
E***/B2F-10	1-1/4"	VB015	VB030M	3.66	7.50	4.84	6.41	1.25	9.96
E***/B2F-12	1-1/2"	VB030	VB030M	4.13	9.92	6.18	7.48	1.49	10.55
E***/B2F-16	2"	VB030	VB030M	4.80	11.24	6.18	7.48	1.96	10.91
E***/B2F-20	2-1/2"	VB060	VB060M	6.10	11.94	7.28	8.43	2.55	12.20
E***/B2F-24	3"	VB060	VB060M	6.89	12.30	7.28	8.43	3.15	12.56
E***/B2F-32	4"	VB0110	VB0110M	8.03	14.00	8.31	9.33	3.93	14.26



## B2S Series Pneumatic Actuated Valves



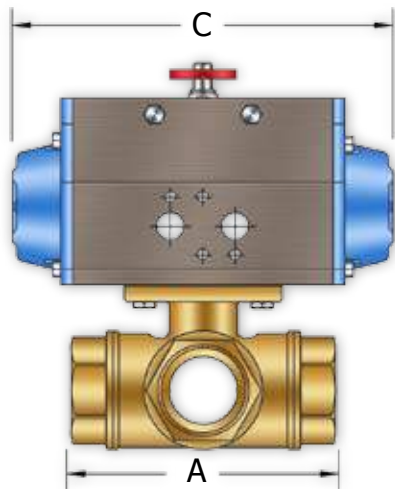
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

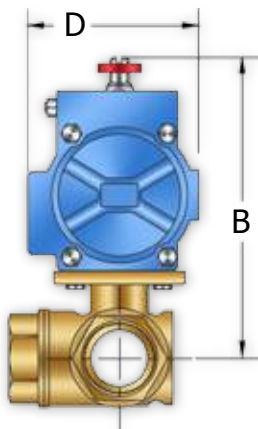
#### Valve

- 3-Way Brass Full Port
- 29 Hg-400 PSI W.O.G. Cold Non-Shock
- -20°F to 344°F



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D
PD/B2S-2T*	1/4"	DA32	2.64	3.74	5.10	2.02
PD/B2S-3T*	3/8"	DA32	2.64	3.74	5.10	2.02
PD/B2S-4T*	1/2"	DA32	2.87	3.74	5.10	2.02
PD/B2S-6T*	3/4"	DA32	3.90	3.83	5.10	2.02
PD/B2S-8T*	1"	DA52	4.33	5.26	5.88	2.82
PD/B2S-10T*	1-1/4"	DA52	4.47	5.48	5.88	2.82
PD/B2S-12T*	1-1/2"	DA52	6.15	5.97	5.88	2.82
PD/B2S-16T*	2"	DA63	6.51	7.18	6.61	3.29
PD/B2S-20T*	2-1/2"	DA63	7.76	7.63	6.61	3.29
PD/B2S-24T*	3"	DA63	8.13	7.63	6.61	3.29



### Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D
P*/B2S-2T*	1/4"	SR52	2.64	4.91	5.88	2.82
P*/B2S-3T*	3/8"	SR52	2.64	4.91	5.88	2.82
P*/B2S-4T*	1/2"	SR52	2.87	4.91	5.88	2.82
P*/B2S-6T*	3/4"	SR52	3.19	4.99	5.88	2.82
P*/B2S-8T*	1"	SR52	3.74	5.25	5.88	2.82
P*/B2S-10T*	1-1/4"	SR52	4.39	5.48	5.88	2.82
P*/B2S-12T*	1-1/2"	SR63	4.86	6.13	6.61	3.29
P*/B2S-16T*	2"	SR85	5.73	7.82	9.47	4.17
P*/B2S-20T*	2-1/2"	SR85	6.93	8.27	9.47	4.17
P*/B2S-24T*	3"	SR85	7.08	8.27	9.47	4.17

\* Option  
**O** = Fail open  
**C** = Fail Close

\* Option  
**T** = T-Port  
**L** = L-Port

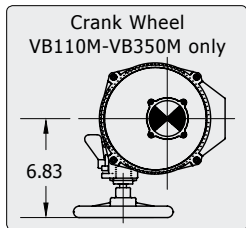




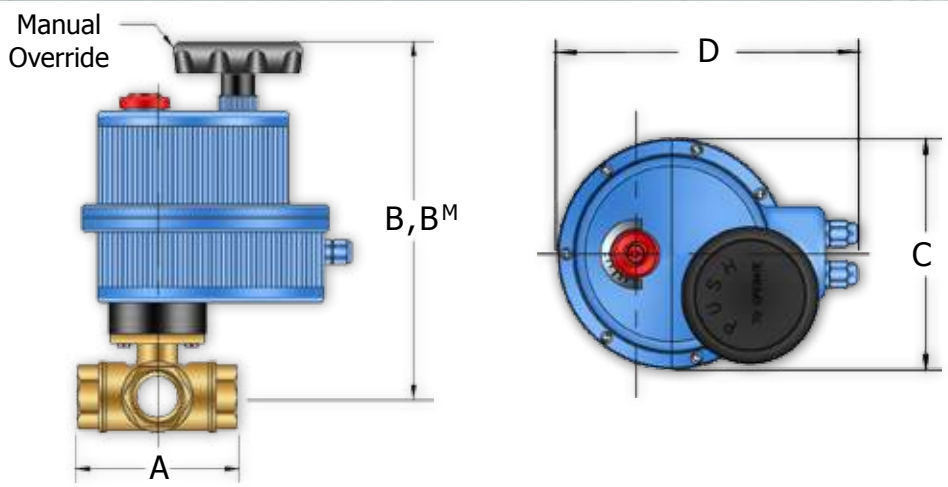
# B2S Series Electric Actuated Valves



- ### Features:
- Actuator**
- VO Self Extinguishing Class Techno-Polymer
  - Metal Available on request
  - All Actuators IP67 (VB015 IP65)
  - Heater Thermostat Standard
  - Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- Valve**
- 2-Way Brass Full Port
  - 29 Hg-400 PSI W.O.G. Cold Non-Shock
  - -20°F to 344°F



\* Option  
**T** = T-Port  
**L** = L-Port



### Dimensions:

**\*\*\* Actuator Voltage**

**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC

B<sup>M</sup> = Optional Metal Actuator

Part No.	Size	Actuator		A	B	C	D	B <sup>M</sup>
		Standard	Optional					
E***/B2F-2T*	1/4"	VB015	VB030M	2.64	6.67	4.84	6.41	8.03
E***/B2F-3T*	3/8"	VB015	VB030M	2.64	6.67	4.84	6.41	8.03
E***/B2F-4T*	1/2"	VB015	VB030M	2.87	6.67	4.84	6.41	8.03
E***/B2F-6T*	3/4"	VB015	VB030M	3.19	6.86	4.84	6.41	8.03
E***/B2F-8T*	1"	VB030	VB030M	3.74	7.38	6.18	7.48	7.64
E***/B2F-10T*	1-1/4"	VB030	VB030M	4.39	7.60	6.18	7.48	7.86
E***/B2F-12T*	1-1/2"	VB030	VB030M	4.86	8.09	6.18	7.48	8.35
E***/B2F-16T*	2"	VB060	VB060M	5.73	11.36	6.94	8.43	11.62
E***/B2F-20T*	2-1/2"	VB060	VB060M	6.93	11.81	6.94	8.43	12.07
E***/B2F-24T*	3"	VB060	VB060M	7.08	11.81	6.94	8.43	12.07



## S2F Series Pneumatic Actuated Valves

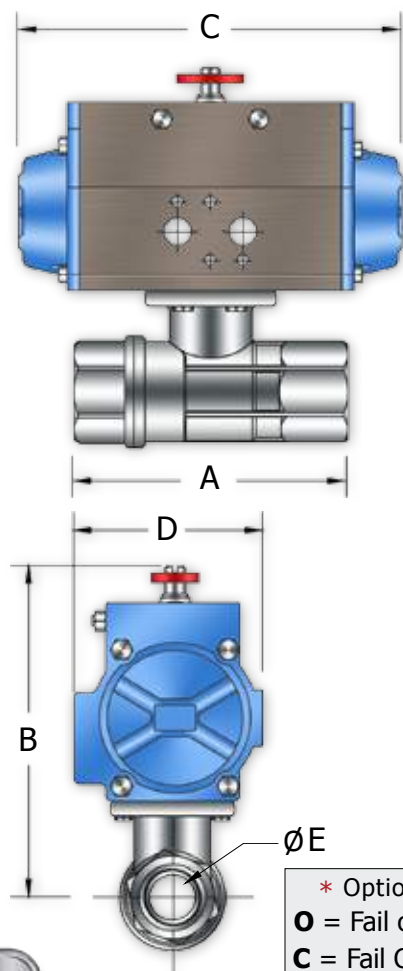
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- 316 Stainless Steel Full Port Ball Valve
- ISO 5211 Mounting Pad
- 1000psi WOG – 150psi Steam
- PTFE Seats with Viton® O-Ring Backed Seat
- Temperature 0°F to 366°F



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	ØE
PD/S2F-2	1/4"	DA32	2.64	3.82	4.33	2.02	0.39
PD/S2F-3	3/8"	DA32	2.64	3.82	4.33	2.02	0.39
PD/S2F-4	1/2"	DA32	2.64	3.82	4.33	2.02	0.59
PD/S2F-6	3/4"	DA32	3.00	3.90	4.33	2.02	0.78
PD/S2F-8	1"	DA32	3.35	4.33	4.33	2.02	0.98
PD/S2F-10	1-1/4"	DA32	3.66	4.47	4.33	2.02	1.25
PD/S2F-12	1-1/2"	DA52	4.13	6.15	5.88	2.82	1.49
PD/S2F-16	2"	DA52	4.80	7.63	5.88	2.82	1.96
PD/S2F-20	2-1/2"	DA75	6.10	7.65	8.27	3.72	2.55
PD/S2F-24	3"	DA85	6.89	8.77	9.47	4.92	3.15

### Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D	ØE
P*/S2F-2	1/4"	SR52	2.64	4.91	5.88	2.82	0.39
P*/S2F-3	3/8"	SR52	2.64	4.91	5.88	2.82	0.39
P*/S2F-4	1/2"	SR52	2.64	4.91	5.88	2.82	0.59
P*/S2F-6	3/4"	SR52	3.00	4.99	5.88	2.82	0.78
P*/S2F-8	1"	SR52	3.35	5.42	5.88	2.82	0.98
P*/S2F-10	1-1/4"	SR52	3.66	5.56	5.88	2.82	1.25
P*/S2F-12	1-1/2"	SR63	4.13	7.18	6.61	3.29	1.49
P*/S2F-16	2"	SR63	4.80	7.57	6.61	3.29	1.96
P*/S2F-20	2-1/2"	SR115	6.10	9.87	13.11	5.39	2.55
P*/S2F-24	3"	SR125	6.89	10.72	14.65	5.83	3.15



# S2F Series Electric Actuated Valves



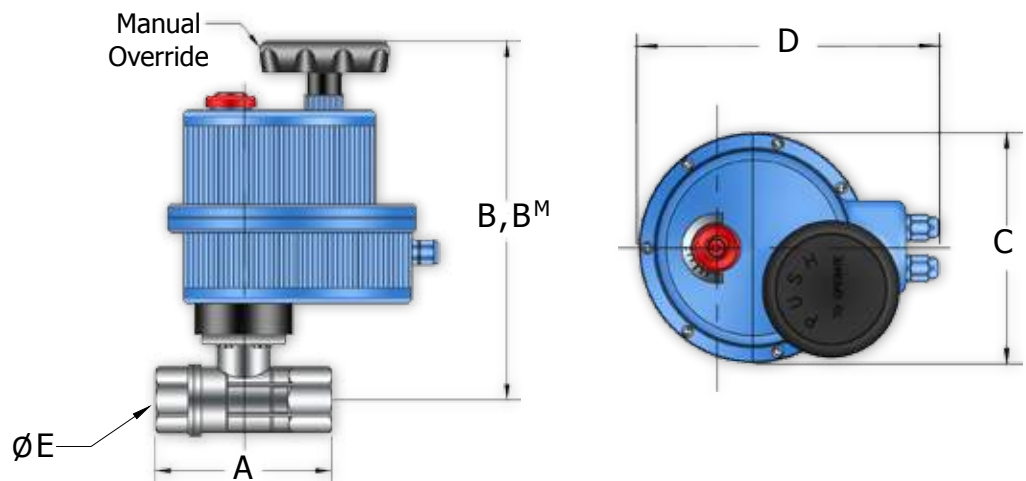
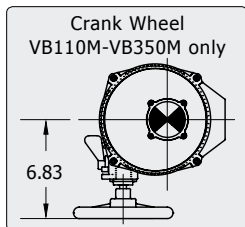
## Features:

### Actuator

- VO Self Extinguishing Class Techno-Polymer
- Metal Available on request
- All Actuators IP67 (VB015 IP65)
- Heater Thermostat Standard
- Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

### Valve

- 316 Stainless Steel Full Port Ball Valve
- ISO 5211 Mounting Pad
- 1000psi WOG – 150psi Steam
- PTFE Seats with Viton® O-Ring Backed Seat
- Temperature 0°F to 366°F



## Dimensions:

\*\*\* Actuator Voltage

**115V** = 115VAC

**240V** = 240VAC

**012D** = 12VDC

**024D** = 24VDC

B<sup>M</sup> = Optional Metal Actuator

Part No.	Size	Actuator		A	B	C	D	ØE	B <sup>M</sup>
		Standard	Optional						
E***/S2F-2	1/4"	VB015	VB030M	2.64	6.85	4.84	6.41	0.39	9.30
E***/S2F-3	3/8"	VB015	VB030M	2.64	6.85	4.84	6.41	0.39	9.30
E***/S2F-4	1/2"	VB015	VB030M	2.64	6.85	4.84	6.41	0.59	9.30
E***/S2F-6	3/4"	VB015	VB030M	3.00	6.93	4.84	6.41	0.78	9.39
E***/S2F-8	1"	VB015	VB030M	3.35	7.36	4.84	6.41	0.98	9.82
E***/S2F-10	1-1/4"	VB015	VB030M	3.66	7.50	4.84	6.41	1.25	9.96
E***/S2F-12	1-1/2"	VB030	VB030M	4.13	9.92	6.18	7.48	1.49	10.55
E***/S2F-16	2"	VB030	VB030M	4.80	10.91	6.18	7.48	1.96	10.91
E***/S2F-20	2-1/2"	VB110	VB110M	6.10	11.52	8.31	9.33	2.55	12.71
E***/S2F-24	3"	VB110	VB110M	6.89	13.24	8.31	9.33	3.15	13.50



## S2S Series Pneumatic Actuated Valves

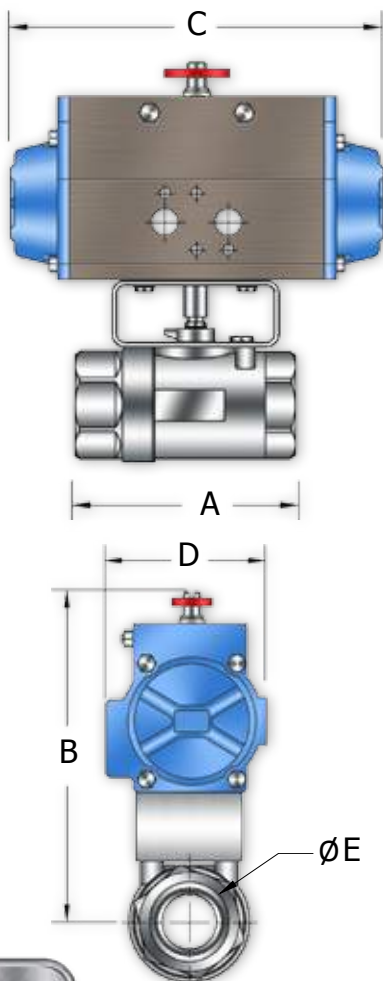
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- Stainless Steel
- Standard Port 2-Piece Ball Valve
- 29"Hg-2000PSI WOG
- RTFE Seats and PTE Seals
- Temperature -20°F to 450°F



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	ØE	Bracket Kit
PD/S2S-2	1/4"	DA32	2.00	5.61	5.10	2.02	0.39	MK2050
PD/S2S-3	3/8"	DA32	2.00	5.61	5.10	2.02	0.39	MK2050
PD/S2S-4	1/2"	DA32	2.40	5.61	5.10	2.02	0.59	MK2050
PD/S2S-6	3/4"	DA52	2.67	6.72	5.88	2.82	0.78	MK2052
PD/S2S-8	1"	DA52	3.26	7.15	5.88	2.82	0.98	MK2052
PD/S2S-10	1-1/4"	DA63	3.54	7.88	6.61	3.59	1.25	MK2061
PD/S2S-12	1-1/2"	DA63	4.09	8.13	6.61	3.59	1.49	MK2061
PD/S2S-16	2"	DA75	4.60	9.27	7.32	3.73	1.96	MK2064

\* Option  
**O** = Fail open  
**C** = Fail Close

### Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D	ØE	Bracket Kit
P*/S2S-2	1/4"	SR52	2.00	6.60	5.88	2.82	0.39	MK2051
P*/S2S-3	3/8"	SR52	2.00	6.60	5.88	2.82	0.39	MK2051
P*/S2S-4	1/2"	SR52	2.40	6.60	5.88	2.82	0.59	MK2051
P*/S2S-6	3/4"	SR52	2.67	6.72	5.88	2.82	0.78	MK2052
P*/S2S-8	1"	SR63	3.26	7.72	6.61	3.29	0.98	MK2052
P*/S2S-10	1-1/4"	SR75	3.54	8.35	7.32	3.73	1.25	MK2059
P*/S2S-12	1-1/2"	SR85	4.09	9.27	9.47	4.17	1.49	MK2060
P*/S2S-16	2"	SR100	4.60	9.70	10.83	4.84	1.96	MK2064



# S2S Series Electric Actuated Valves



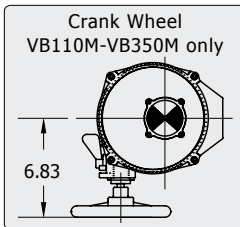
## Features:

### Actuator

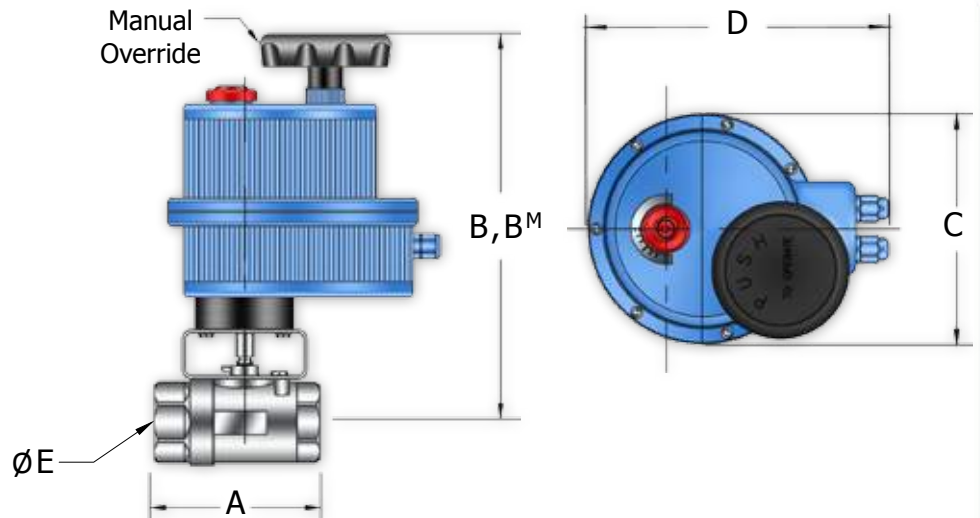
- VO Self Extinguishing Class Techno-Polymer
- Metal Available on request
- All Actuators IP67 (VB015 IP65)
- Heater Thermostat Standard
- Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

### Valve

- Stainless Steel
- Standard Port 2-Piece Ball Valve
- 29"Hg-2000PSI WOG
- RTFE Seats and PTE Seals
- Temperature -20°F to 450°F



Manual  
Override



### \*\*\* Actuator Voltage

**115V** = 115VAC

**240V** = 240VAC

**012D** = 12VDC

**024D** = 24VDC

B<sup>M</sup> = Optional Metal Actuator

## Dimensions:

Part No.	Size	Actuator		A	B	C	D	ØE	B <sup>M</sup>	Bracket Kit
		Standard	Optional							
E***/S2S-2	1/4"	VB015	VB030M	2.00	8.64	4.84	6.41	0.39	11.10	MK2051
E***/S2S-3	3/8"	VB015	VB030M	2.00	8.64	4.84	6.41	0.39	11.10	MK2051
E***/S2S-4	1/2"	VB015	VB030M	2.40	9.07	4.84	6.41	0.59	11.53	MK2051
E***/S2S-6	3/4"	VB015	VB030M	2.67	9.34	4.84	6.41	0.78	11.79	MK2052
E***/S2S-8	1"	VB030	VB030M	3.26	10.90	6.18	7.48	0.98	11.54	MK2052
E***/S2S-10	1-1/4"	VB030	VB030M	3.54	11.02	6.18	7.48	1.25	11.65	MK2059
E***/S2S-12	1-1/2"	VB030	VB030M	4.09	11.49	7.28	8.43	1.49	12.12	MK2060
E***/S2S-16	2"	VB060	VB060M	4.60	12.73	7.28	8.43	1.96	12.99	MK2064



## S2S TL & TT Series Pneumatic Actuated Valves



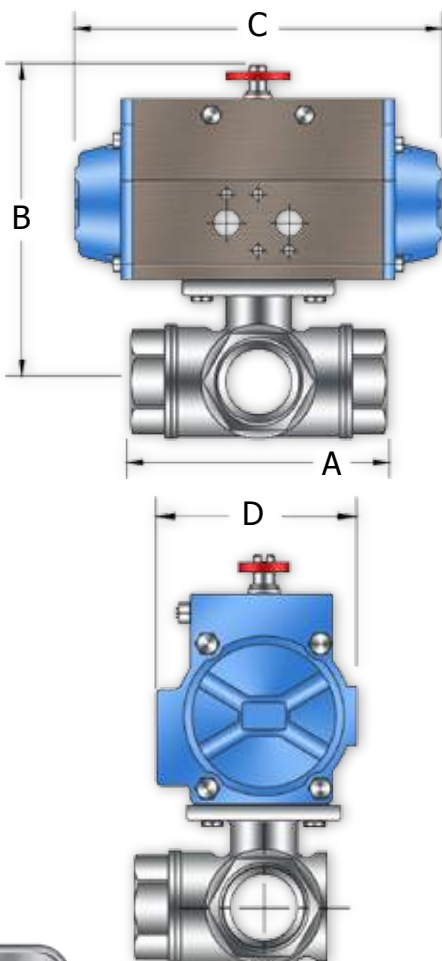
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- Stainless Steel 3-Way Std. Port Ball Valve
- 29"Hg-1000PSI WOG (1/4" to 1") 800PSI (1-1/4" to 2")
- ISO 5211 Mounting Pad
- Four Seat Design for Sealing Between Pressurized Ports
- RTFE Seats with Viton® O-Rings
- Temperature -20°F to 450°F



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D
PD/S2S-4T*	1/2"	DA52	2.64	5.03	5.88	2.82
PD/S2S-6T*	3/4"	DA52	2.87	5.28	5.88	2.82
PD/S2S-8T*	1"	DA63	3.19	6.18	6.61	3.29
PD/S2S-10T*	1-1/4"	DA63	3.74	6.46	6.61	3.29
PD/S2S-12T*	1-1/2"	DA75	4.39	6.85	8.27	3.72
PD/S2S-16T*	2"	DA85	4.86	7.80	9.47	4.17

\* Option

**O** = Fail open

**C** = Fail Close

\* Option

**T** = T-Port

**L** = L-Port

### Spring Return Dimensions:

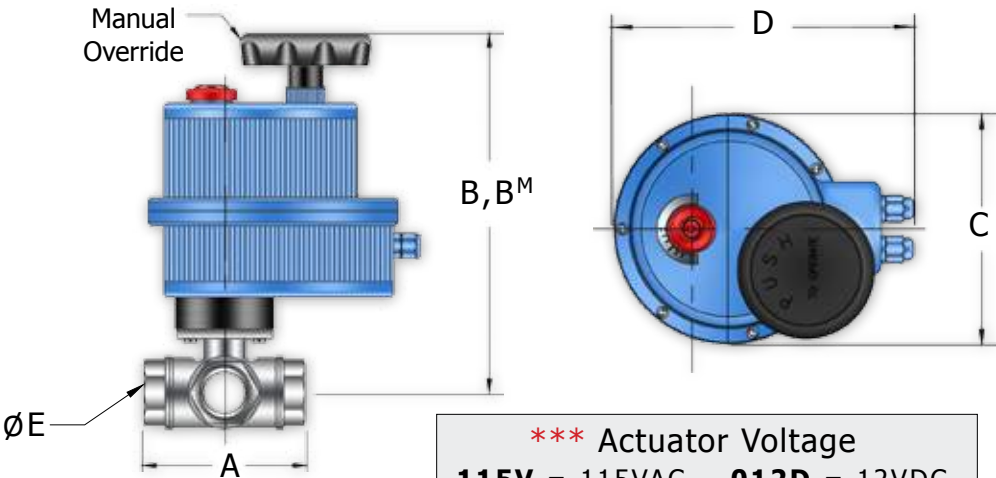
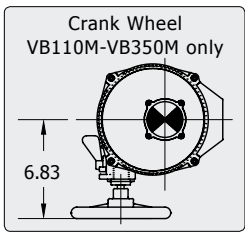
Part No.	Size	Actuator	A	B	C	D
P*/S2S-4T*	1/2"	SR63	2.64	5.73	6.61	3.29
P*/S2S-6T*	3/4"	SR63	2.87	6.31	6.61	3.29
P*/S2S-8T*	1"	SR75	3.19	6.27	8.27	4.37
P*/S2S-10T*	1-1/4"	SR75	3.74	6.55	8.27	4.37
P*/S2S-12T*	1-1/2"	SR00	4.39	7.91	10.83	4.84
P*/S2S-16T*	2"	SR100	4.86	8.31	10.83	4.84



# S2S TL & TT Series Electric Actuated Valves



- ### Features:
- Actuator**
- VO Self Extinguishing Class Techno-Polymer
  - Metal Available on request
  - All Actuators IP67 (VB015 IP65)
  - Heater Thermostat Standard
  - Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- Valve**
- Stainless Steel 3-Way Std. Port Ball Valve
  - 29"Hg-1000PSI WOG (1/4" to 1") 800PSI (1-1/4" to 2")
  - ISO 5211 Mounting Pad
  - Four Seat Design for Sealing Between Pressurized Ports
  - RTFE Seats with Viton® O-Rings
  - Temperature -20°F to 450°F



\* Option  
**T** = T-Port  
**L** = L-Port

\*\*\* Actuator Voltage  
**115V** = 115VAC    **012D** = 12VDC  
**240V** = 240VAC    **024D** = 24VDC  
**B<sup>M</sup>** = Optional Metal Actuator

### Dimensions:

Part No.	Size	Actuator		A	B	C	D	ØE	B <sup>M</sup>
		Standard	Optional						
E***/S2S-4T*	1/2"	VB015	VB030M	2.83	7.02	4.84	6.41	0.47	9.48
E***/S2S-6T*	3/4"	VB030	VB030M	3.26	9.05	6.18	7.48	0.59	9.68
E***/S2S-8T*	1"	VB030	VB030M	3.89	9.05	6.18	7.48	0.78	9.68
E***/S2S-10T*	1-1/4"	VB060	VB060M	4.40	10.64	7.28	7.82	0.96	10.90
E***/S2S-12T*	1-1/2"	VB060	VB060M	4.92	10.94	7.28	7.82	1.25	11.20
E***/S2S-16T*	2"	VB110	VB110M	4.92	12.02	8.31	7.82	1.25	12.53



## S2F TL & TT Series Pneumatic Actuated Valves



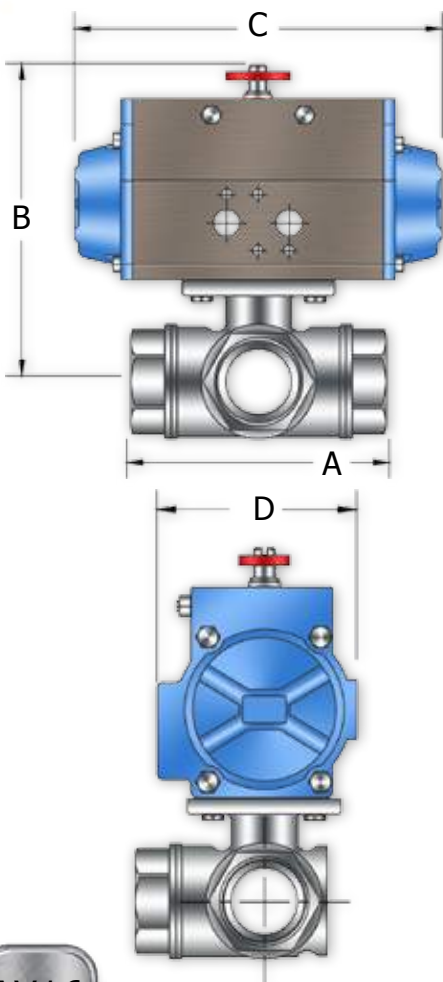
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- Stainless Steel 3-Way Full Port Ball Valve
- 29"Hg-1000PSI WOG (1/4" to 1") 800PSI (1-1/4" to 2")
- ISO 5211 Mounting Pad
- Four Seat Design for Sealing Between Pressurized Ports
- RTFE Seats with Viton® O-Rings
- Temperature -20°F to 450°F



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D
PD/S2F-2T*	1/4"	DA52	2.64	5.03	5.88	2.82
PD/S2F-3T*	3/8"	DA52	2.64	5.03	5.88	2.82
PD/S2F-4T*	1/2"	DA52	2.87	5.28	5.88	2.82
PD/S2F-6T*	3/4"	DA63	3.19	6.18	6.61	3.29
PD/S2F-8T*	1"	DA63	3.74	6.46	6.61	3.29
PD/S2F-10T*	1-1/4"	DA75	4.39	6.85	8.27	3.72
PD/S2F-12T*	1-1/2"	DA85	4.86	7.80	9.47	3.72
PD/S2f-16T*	2"	DA100	5.73	9.06	10.83	4.84

\* Option

**O** = Fail open

**C** = Fail Close

\* Option

**T** = T-Port

**L** = L-Port

### Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D
PD/S2F-2T*	1/4"	SR63	2.64	5.73	6.61	3.29
PD/S2F-3T*	3/8"	SR63	2.64	5.73	6.61	3.29
P*/S2F-4T*	1/2"	SR63	2.87	5.73	6.61	3.29
P*/S2F-6T*	3/4"	SR75	3.19	6.47	8.27	3.73
P*/S2F-8T*	1"	SR75	3.74	6.75	8.27	3.73
P*/S2F-10T*	1-1/4"	SR100	4.39	7.91	10.83	4.84
P*/S2F-12T*	1-1/2"	SR100	4.86	8.31	10.83	4.84
P*/S2F-16T*	2"	SR125	5.73	10.50	17.65	5.83

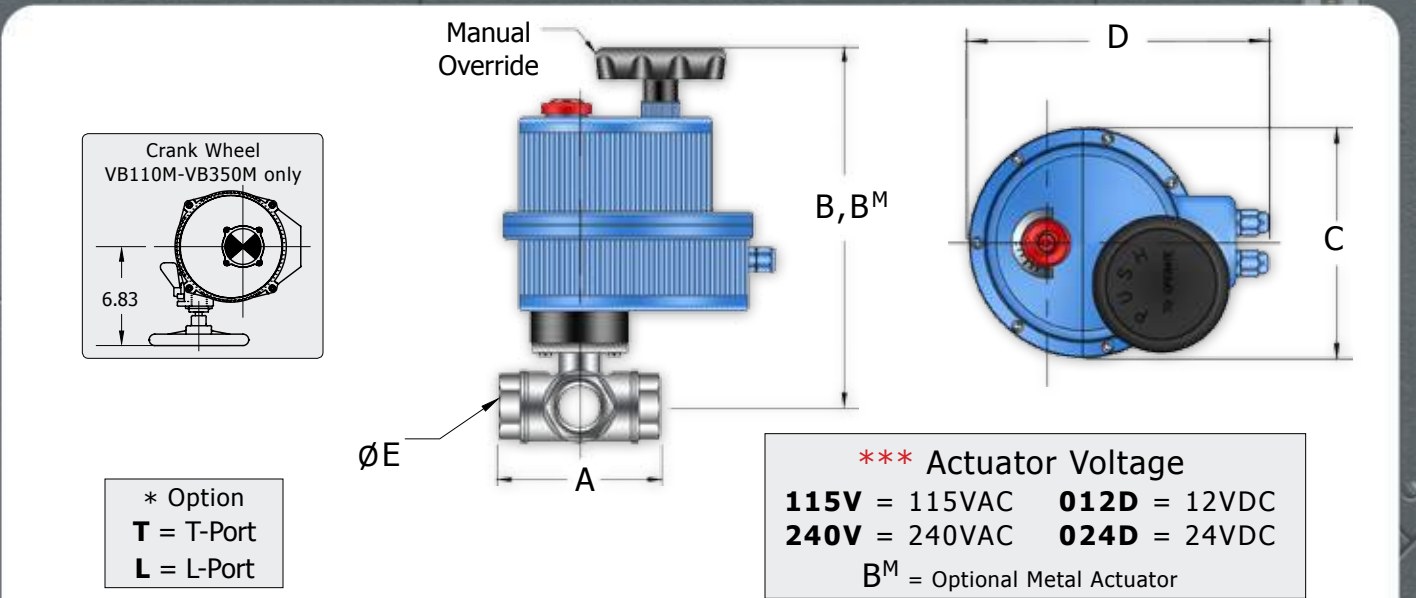




# S2F TL & TT Series Electric Actuated Valves



- ### Features:
- Actuator**
- VO Self Extinguishing Class Techno-Polymer
  - Metal Available on request
  - All Actuators IP67 (VB015 IP65)
  - Heater Thermostat Standard
  - Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- Valve**
- Stainless Steel 3-Way Full Port Ball Valve
  - 29"Hg-1000PSI WOG (1/4" to 1") 800PSI (1-1/4" to 2")
  - ISO 5211 Mounting Pad
  - Four Seat Design for Sealing Between Pressurized Ports
  - RTFE Seats with Viton® O-Rings
  - Temperature -20°F to 450°F



### Dimensions:

Part No.	Size	Actuator		A	B	C	D	ØE	B <sup>M</sup>
		Standard	Optional						
E***/S2F-2T*	1/4"	VB015	VB030M	2.83	7.02	4.84	6.41	0.43	9.48
E***/S2F-3T*	3/8"	VB015	VB030M	2.83	7.02	4.84	6.41	0.47	9.48
E***/S2F-4T*	1/2"	VB030	VB030M	3.26	9.05	6.18	7.48	0.59	9.68
E***/S2F-6T*	3/4"	VB030	VB030M	3.89	9.05	6.18	7.48	0.78	9.68
E***/S2F-8T*	1"	VB060	VB060M	4.40	10.64	7.28	7.82	0.96	10.90
E***/S2F-10T*	1-1/4"	VB060	VB060M	4.92	10.94	7.28	7.82	1.25	11.20
E***/S2F-12T*	1-1/2"	VB110	VB110M	5.86	12.02	8.31	5.86	1.49	12.53
E***/S2F-16T*	2"	VB190	VB190M	6.85	12.77	8.31	6.85	1.96	13.28



# S6M Series Pneumatic Actuated Valves

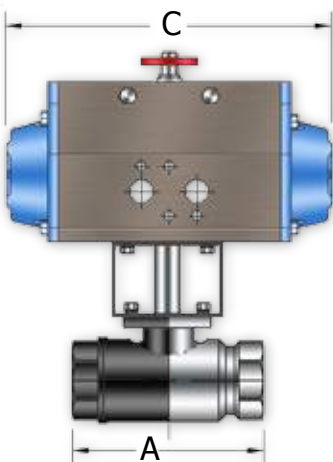
## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

- Seal Welded, Full Port Ball Valve
- Available in Stainless Steel and Carbon Steel
- 6000PSI WOG
- Delrin® Seats with Viton® O-Rings
- NACE MR-0175-90
- API 607-4 Fire Safe / API 608 Compliance
- API Standard 6D



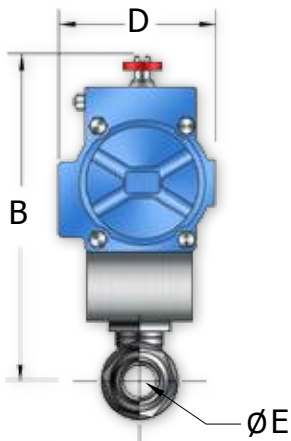
### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	Bracket Kit
PD/*S6M-2	1/4"	DA63	2.80	6.18	5.88	2.82	0.37	BK1/050I
PD/*S6M-3	3/8"	DA63	2.80	6.83	6.61	3.29	0.37	BK1/063I
PD/*S6M-4	1/2"	DA63	3.19	6.83	6.61	3.29	0.49	BK1/063I
PD/*S6M-6	3/4"	DA75	3.78	7.58	8.27	3.72	0.79	BK1/063B*
PD/*S6M-8	1"	DA100	4.25	8.62	10.83	4.84	0.98	BK2/075C*
PD/*S6M-10	1-1/4"	DA100	4.72	9.12	10.83	4.84	1.26	BK2/075C*
PD/*S6M-12	1-1/2"	DA100	5.12	9.72	10.83	4.84	1.50	BK2/075C*
PD/*S6M-16	2"	DA115	5.91	10.68	13.11	5.39	1.50	BK2/075C*

\* Option  
**S** = Stainless  
**C** = Carbon

\* Option  
**O** = Fail open  
**C** = Fail Close

\* Coupler will be custom fit to valve



### Spring Return Dimensions:

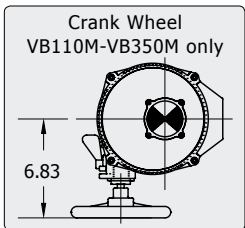
Part No.	Size	Actuator	A	B	C	D	ØE	Bracket Kit
P*/*S6M-2	1/4"	SR85	2.80	7.30	7.32	3.73	0.37	BK1/063I
P*/*S6M-3	3/8"	SR85	2.80	7.30	7.32	3.73	0.37	BK1/063I
P*/*S6M-4	1/2"	SR100	3.19	7.98	10.83	4.84	0.49	BK1/063I
P*/*S6M-6	3/4"	SR115	3.78	9.96	13.11	5.39	0.79	BK1/075A*
P*/*S6M-8	1"	SR140	4.25	11.38	19.69	7.32	0.98	BK2/125C*
P*/*S6M-10	1-1/4"	SR160	4.72	12.39	19.69	7.32	1.26	BK2/125C*
P*/*S6M-12	1-1/2"	SR160	5.12	12.98	19.69	7.32	1.50	BK2/100C*
P*/*S6M-16	2"	SR200	5.91	12.98	19.69	7.32	1.50	BK2/100C*



# S6M Series Electric Actuated Valves

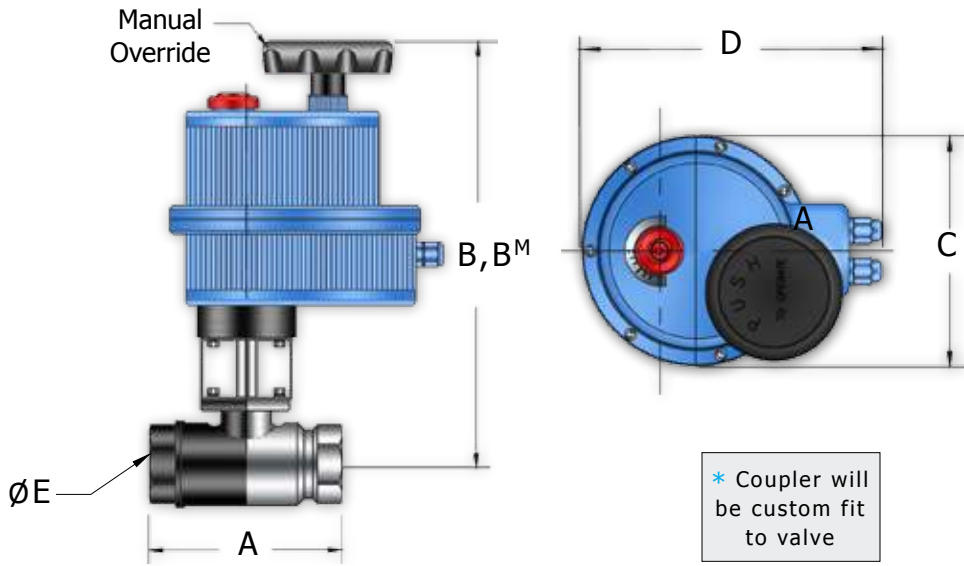


- ## Features:
- Actuator**
    - VO Self Extinguishing Class Techno-Polymer
    - Metal Available on request
    - All Actuators IP67 (VB015 IP65)
    - Heater Thermostat and Manual Override Standard
    - Two Auxiliary Limit Switches Standard
    - Battery Backup or 4-20mA Positioner Optional
  - Valve**
    - Seal Welded, Full Port Ball Valve
    - Available in Stainless Steel and Carbon Steel
    - 6000PSI WOG
    - Delrin® Seats with Viton® O-Rings
    - NACE MR-0175-90
    - API 607-4 Fire Safe / API 608 Compliance
    - API Standard 6D



\*\*\* Actuator Voltage  
**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC  
**B<sup>M</sup>** = Optional Metal Actuator

\* Option  
**S** = Stainless  
**C** = Carbon



## Dimensions:

Part No.	Size	Actuator		A	B	C	D	ØE	B <sup>M</sup>	Bracket Kit
		Standard	Optional							
E***/*S6M-2	1/4"	VB030	VB030M	2.80	9.95	6.18	7.48	0.37	10.58	BK1/050I
E***/*S6M-3	3/8"	VB030	VB030M	2.80	9.95	6.18	7.48	0.37	10.58	BK1/063I
E***/*S6M-4	1/2"	VB030	VB030M	3.19	9.95	6.18	7.48	0.49	10.58	BK1/063I
E***/*S6M-6	3/4"	VB060	VB060M	3.78	11.29	7.28	8.43	0.79	11.55	BK1/063B*
E***/*S6M-8	1"	VB110	VB110M	4.25	11.65	8.31	9.33	0.98	12.16	BK2/075C*
E***/*S6M-10	1-1/4"	VB190	VB190M	4.72	12.54	8.31	9.33	1.26	13.05	BK2/075C*
E***/*S6M-12	1-1/2"	VB190	VB190M	5.12	13.42	8.31	9.33	1.50	13.93	BK2/075C*
E***/*S6M-16	2"	VB270	VB270M	5.91	13.47	8.74	10.08	1.50	14.08	BK2/075C*



# 2F3M Series Pneumatic Actuated Valves



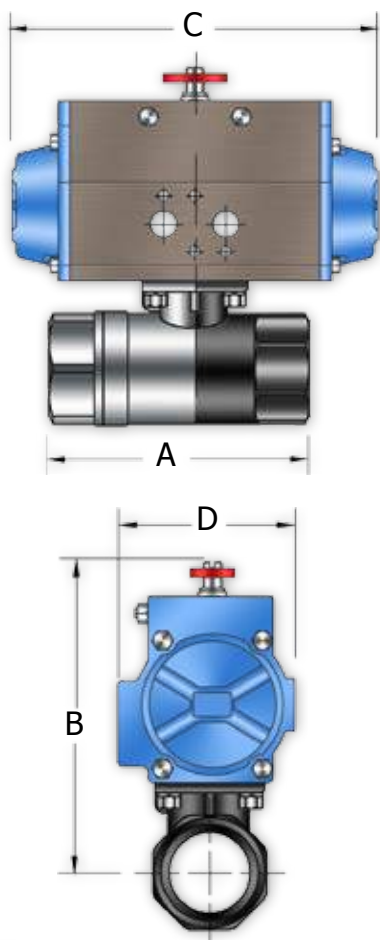
## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

- Stainless Steel and Carbon Steel
- ISO 5211 Mounting Pad
- 29"Hg-3000PSI (100°F)
- Full Port Ball Valve
- Delrin® Seats with Viton® O-Rings
- NACE MR-0175
- Temperature -20°F to 450°F



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D
PD/*2F3M-2	1/4"	DA52	2.95	5.23	5.79	2.82
PD/*2F3M-3	3/8"	DA52	2.95	5.23	5.79	2.82
PD/*2F3M-4	1/2"	DA52	2.95	5.23	5.79	2.82
PD/*2F3M-6	3/4"	DA52	3.19	5.35	5.79	2.82
PD/*2F3M-8	1"	DA63	3.58	6.34	6.61	3.29
PD/*2F3M-10	1-1/4"	DA75	4.33	7.06	7.24	3.73
PD/*2F3M-12	1-1/2"	DA75	4.76	7.33	8.27	3.72
PD/*2F3M-16	2"	DA75	5.71	7.33	8.27	3.72

\* Option  
**O** = Fail open  
**C** = Fail Close

\* Option  
**S** = Stainless  
**C** = Carbon

### Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D
P*/*2F3M-2	1/4"	SR63	2.95	5.84	6.61	3.29
P*/*2F3M-3	3/8"	SR63	2.95	5.84	6.61	3.29
P*/*2F3M-4	1/2"*	SR75	2.95	7.91	7.24	3.73
P*/*2F3M-6	3/4"*	SR75	3.19	8.02	7.24	3.73
P*/*2F3M-8	1"	SR85	3.58	7.54	10.83	4.84
P*/*2F3M-10	1-1/4"*	SR110	4.33	10.59	13.11	5.39
P*/*2F3M-12	1-1/2"	SR115	4.76	9.35	13.11	5.39
P*/*2F3M-16	2"	SR115	5.71	9.35	13.11	5.39

\* Note: These sizes use a bracket in the assembly



## 2F3M Series Electric Actuated Valves



### Features:

#### Actuator

- VO Self Extinguishing Class Techno-Polymer
- Metal Available on request
- All Actuators IP67 (VB015 IP65)
- Heater Thermostat and Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

#### Valve

- Stainless Steel and Carbon Steel
- ISO 5211 Mounting Pad
- 29"Hg-3000PSI (100°F)
- Full Port Ball Valve
- Delrin® Seats with Viton® O-Rings
- NACE MR-0175
- Temperature -20°F to 450°F

#### \*\*\* Actuator Voltage

**115V** = 115VAC

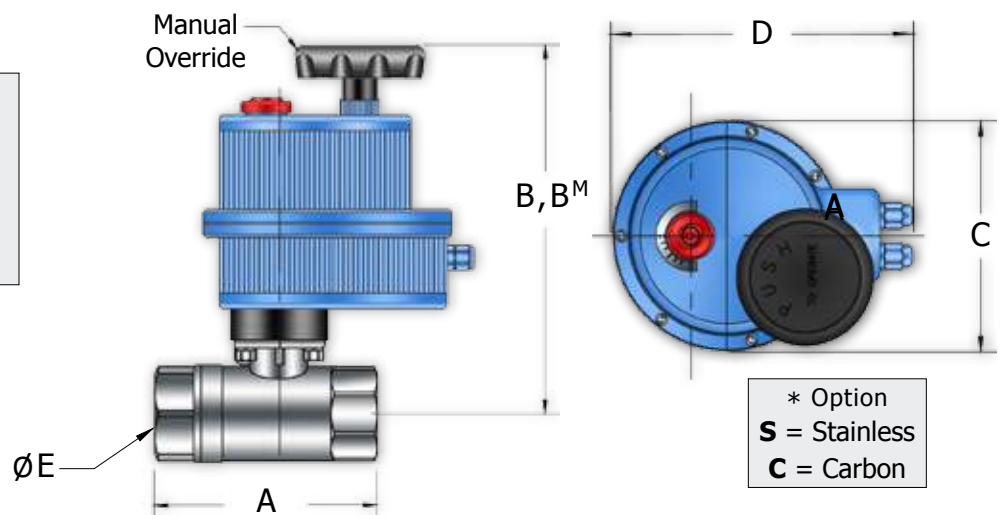
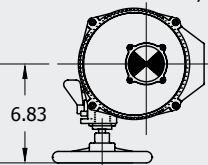
**240V** = 240VAC

**012D** = 12VDC

**024D** = 24VDC

B<sup>M</sup> = Optional Metal Actuator

Crank Wheel  
VB110M-VB350M only



### Dimensions:

Part No.	Size	Actuator		A	B	C	D	ØE	B <sup>M</sup>
		Standard	Optional						
E***/*2F3M-2	1/4"	VB015	VB030M	2.51	7.18	4.84	6.41	0.37	9.64
E***/*2F3M-3	3/8"	VB015	VB030M	2.51	7.18	4.84	6.41	0.37	9.64
E***/*2F3M-4	1/2"	VB030	VB030M	2.57	9.01	6.18	7.48	0.49	9.65
E***/*2F3M-6	3/4"	VB030	VB030M	3.11	9.12	6.18	7.48	0.79	9.75
E***/*2F3M-8	1"	VB030	VB030M	3.38	10.57	7.28	8.43	0.98	10.83
E***/*2F3M-10	1-1/4"	VB060	VB060M	4.13	10.78	7.28	8.43	1.26	11.04
E***/*2F3M-12	1-1/2"	VB060	VB060M	4.68	11.42	7.28	8.43	1.50	11.68
E***/*2F3M-16	2"	VB060	VB060M	5.23	11.42	7.28	8.43	1.50	11.68



## S3FDM Series Pneumatic Actuated Valves

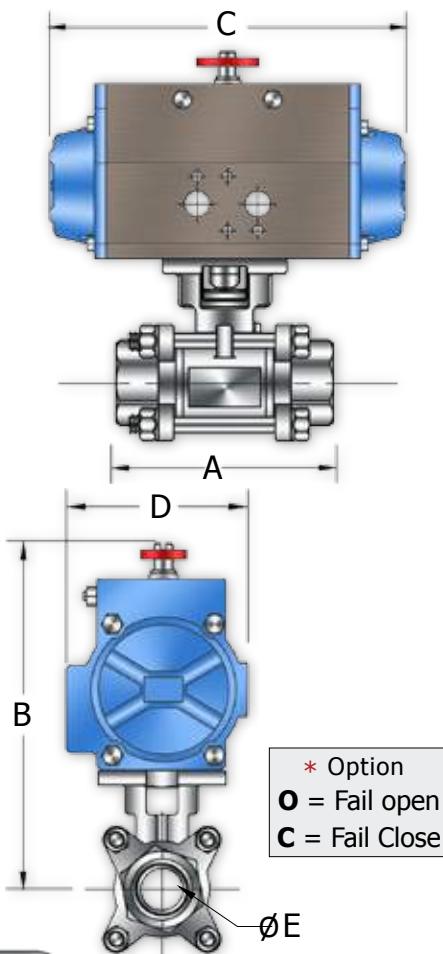
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- Stainless Steel 3-Piece Full Port Ball Valve
- ISO 5211 Mounting Pad
- 1000PSI WOG 1/4" - 2" (2-1/2" - 4" 800psi)
- PTFE Seats and Viton® O-Ring
- Temperature -40°F to 440°F



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	ØE
PD/S3FDM-2	1/4"	DA32	2.51	4.20	6.41	2.02	0.39
PD/S3FDM-3	3/8"	DA32	2.51	4.20	6.41	2.02	0.39
PD/S3FDM-4	1/2"	DA32	2.57	4.20	6.41	2.02	0.59
PD/S3FDM-6	3/4"	DA32	3.11	5.52	5.88	2.82	0.78
PD/S3FDM-8	1"	DA52	3.38	5.86	5.88	2.82	0.98
PD/S3FDM-10	1-1/4"	DA52	4.13	5.97	5.88	2.82	1.25
PD/S3FDM-12	1-1/2"	DA63	4.68	7.33	6.61	3.29	1.49
PD/S3FDM-16	2"	DA75	5.23	8.10	7.32	3.73	1.96
PD/S3FDM-20	2-1/2"	DA75	6.46	9.14	9.47	4.17	2.55
PD/S3FDM-24	3"	DA85	7.19	9.77	10.83	4.84	3.15
PD/S3FDM-32	4"	DA100	9.28	11.61	13.11	4.39	4.04

### Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D	ØE
P*/S3FDM-2	1/4"	SR52	2.51	5.29	5.58	2.82	0.39
P*/S3FDM-3	3/8"	SR52	2.51	5.29	5.58	2.82	0.39
P*/S3FDM-4	1/2"	SR52	2.57	5.29	5.58	2.82	0.59
P*/S3FDM-6	3/4"	SR63-04	3.11	6.11	6.61	3.29	0.78
P*/S3FDM-8	1"	SR75	3.38	6.98	7.32	3.73	0.98
P*/S3FDM-10	1-1/4"	SR75	4.13	7.09	7.32	3.73	1.25
P*/S3FDM-12	1-1/2"	SR85	4.68	8.48	10.83	4.84	1.49
P*/S3FDM-16	2"	SR100	5.23	9.74	13.11	5.39	1.96
P*/S3FDM-20	2-1/2"	SR115	6.46	11.15	14.65	5.83	2.55
P*/S3FDM-24	3"	SR125	7.19	12.39	17.13	6.46	3.15
P*/S3FDM-32	4"	SR140	9.28	13.92	19.69	7.32	4.04



# S3FDM Series Electric Actuated Valves



## Features:

### Actuator

- VO Self Extinguishing Class Techno-Polymer
- Metal Available on request
- All Actuators IP67 (VB015 IP65)
- Heater Thermostat and Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

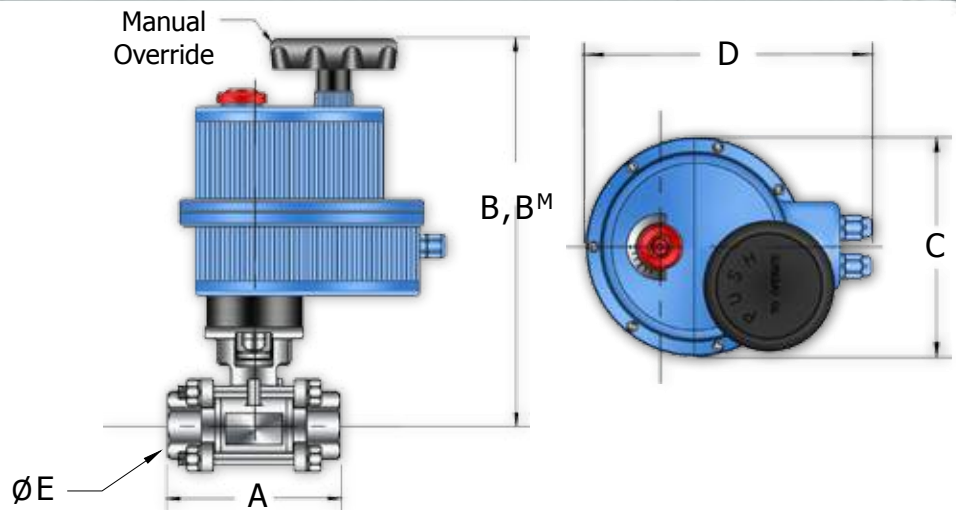
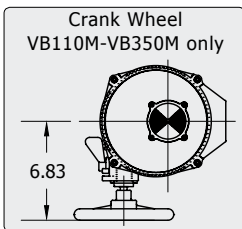
### Valve

- Stainless Steel 3-Piece Full Port Ball Valve
- ISO 5211 Mounting Pad
- 1000PSI WOG 1/4" - 2" (2-1/2" - 4" 800psi)
- PTFE Seats and Viton® O-Ring
- Temperature -40°F to 440°F

### \*\*\* Actuator Voltage

- 115V** = 115VAC
- 240V** = 240VAC
- 012D** = 12VDC
- 024D** = 24VDC

B<sup>M</sup> = Optional Metal Actuator



### Dimensions:

Part No.	Size	Actuator		A	B	C	D	ØE	B <sup>M</sup>
		Standard	Optional						
E***/S3FDM-2	1/4"	VB015	VB030M	2.51	7.23	4.84	6.41	0.39	9.69
E***/S3FDM-3	3/8"	VB015	VB030M	2.51	7.23	4.84	6.41	0.39	9.69
E***/S3FDM-4	1/2"	VB015	VB030M	2.57	7.23	4.84	6.41	0.59	9.69
E***/S3FDM-6	3/4"	VB015	VB030M	3.11	7.46	4.84	6.41	0.78	9.92
E***/S3FDM-8	1"	VB030	VB030M	3.38	9.63	6.18	7.48	0.98	10.26
E***/S3FDM-10	1-1/4"	VB030	VB030M	4.13	9.74	6.18	7.48	1.25	10.37
E***/S3FDM-12	1-1/2"	VB030	VB030M	4.68	10.45	6.18	7.48	1.49	10.71
E***/S3FDM-16	2"	VB060	VB060M	5.23	11.81	7.28	7.82	1.96	12.07
E***/S3FDM-20	2-1/2"	VB110	VB110M	6.46	13.67	8.31	9.33	2.55	13.93
E***/S3FDM-24	3"	VB190	VB190M	7.19	14.02	8.31	9.33	3.15	14.28
E***/S3FDM-32	4"	VB190	VB190M	9.28	14.61	8.31	9.33	4.04	14.87



## S3F22 Series Pneumatic Actuated Valves



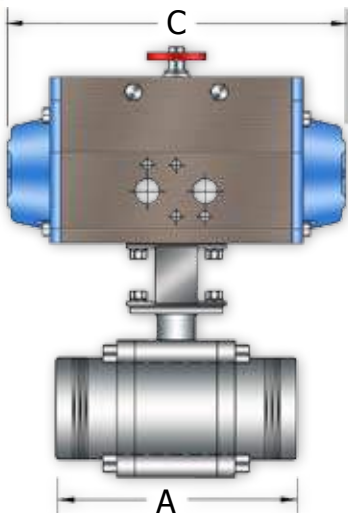
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- 3-Piece Stainless or Carbon Steel Ball Valve
- 25Hg-2250psi WOG Cold Non-Shock, 250psi WSP
- Seats, TFM Standard
- Fire Safe to API607-4
- Weld in Place Design or NPT Available
- ASME/ANSI B16-34 Class 600
- NACE MRO175

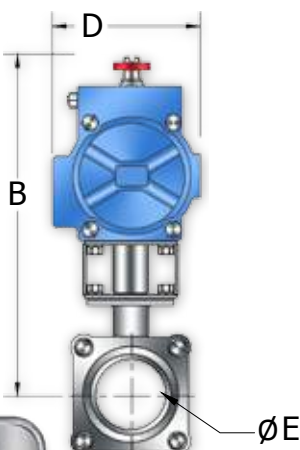


### Double Acting Dimensions:

Part No.	Size	Actuator	A (SW)	A (NPT)	B	C	D	ØE	Bracket Kit
PD/S3F22-2*	1/4"	DA52	4.81	2.72	6.76	5.88	2.82	0.56	BK1/050I
PD/S3F22-3*	3/8"	DA52	4.81	2.72	6.76	5.88	2.82	0.69	BK1/050I
PD/S3F22-4*	1/2"	DA52	4.89	2.91	6.76	5.88	2.82	0.85	BK1/050I
PD/S3F22-6*	3/4"	DA52	5.17	3.38	6.92	5.88	2.82	1.07	BK1/050A
PD/S3F22-8*	1"	DA52	5.24	3.70	7.75	6.61	3.29	1.33	BK2/050B
PD/S3F22-10*	1-1/4"	DA75	5.72	4.09	8.81	7.32	3.73	1.67	BK2/075B
PD/S3F22-12*	1-1/2"	DA75	6.19	4.61	8.90	8.27	3.72	1.91	BK2/075B
PD/S3F22-16*	2"	DA85	6.62	5.20	9.70	9.47	4.17	2.41	BK2/075B

\* Option  
**O** = Fail open  
**C** = Fail Close

\* Option  
**W** = Socket Weld  
**Blank** = NPT



### Spring Return Dimensions:

Part No.	Size	Actuator	A (SW)	A (NPT)	B	C	D	ØE	Bracket Kit
P*/S3F22-2*	1/4"	SR63	4.81	2.72	7.41	6.61	3.29	0.56	BK1/063I
P*/S3F22-3*	3/8"	SR63	4.81	2.72	7.41	6.61	3.29	0.69	BK1/063I
P*/S3F22-4*	1/2"	SR63	4.89	2.91	7.41	6.61	3.29	0.85	BK1/063I
P*/S3F22-6*	3/4"	SR75	5.17	3.38	8.04	7.32	3.73	1.07	BK1/050A
P*/S3F22-8*	1"	SR85	5.24	3.70	8.86	9.47	4.17	1.33	BK2/050B
P*/S3F22-10*	1-1/4"	SR115	5.72	4.09	10.46	13.11	5.39	1.67	BK2/075B
P*/S3F22-12*	1-1/2"	SR115	6.19	4.61	10.82	13.11	5.39	1.91	BK2/075B
P*/S3F22-16*	2"	SR125	6.62	5.20	11.65	14.65	5.83	2.41	BK2/075B

Note: consult ordering matrix for options and materials





# S3F22 Series Electric Actuated Valves



## Actuator Features:

- VO Self Extinguishing Class Techno-Polymer
- Metal Available on request
- All Actuators IP67 (VB015 IP65)
- Heater Thermostat and Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

## Valve

- 3-Piece Stainless or Carbon Steel Ball Valve
- 25Hg-2250psi WOG Cold Non-Shock, 250psi WSP
- Seats, TFM Standard
- Fire Safe to API607-4
- Weld in Place Design or NPT Available
- ASME/ANSI B16-34 Class 600
- NACE MRO175

### \*\*\* Actuator Voltage

**115V** = 115VAC

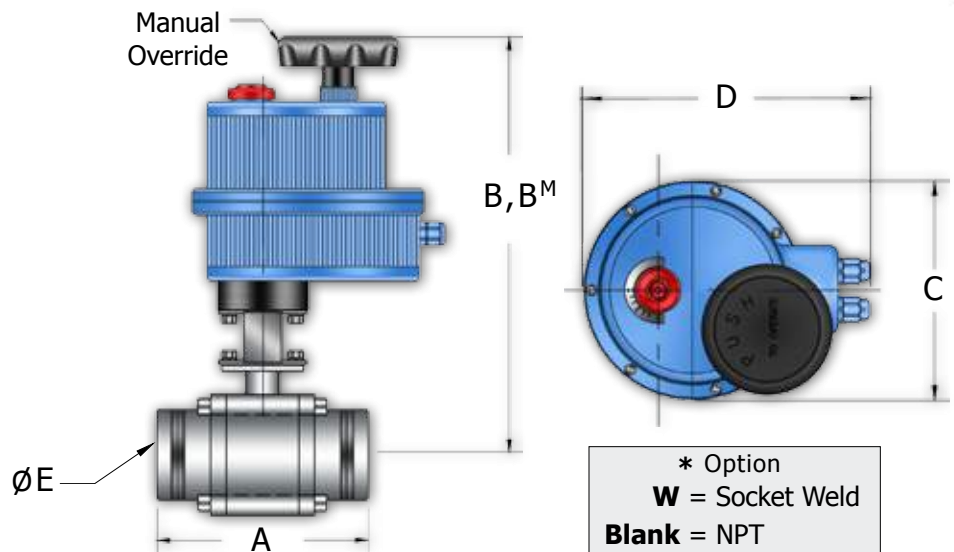
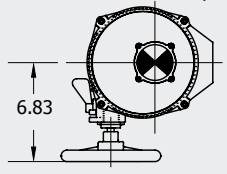
**240V** = 240VAC

**012D** = 12VDC

**024D** = 24VDC

B<sup>M</sup> = Optional Metal Actuator

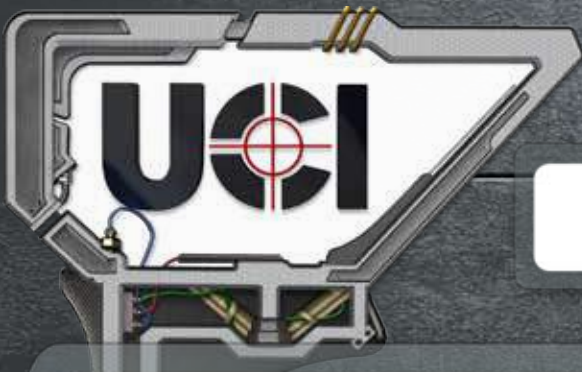
Crank Wheel  
VB110M-VB350M only



## Dimensions:

Part No.	Size	Actuator		A (SW)	A (NPT)	B	C	D	ØE	B <sup>M</sup>	Bracket Kit
		Standard	Optional								
E***/S3F22-2*	1/4"	VB015	VB030M	4.81	2.72	8.70	4.84	6.41	0.56	11.16	BK1/050I
E***/S3F22-3*	3/8"	VB015	VB030M	4.81	2.72	8.70	4.84	6.41	0.69	11.16	BK1/050I
E***/S3F22-4*	1/2"	VB015	VB030M	4.89	2.91	8.70	4.84	6.41	0.85	11.16	BK1/050I
E***/S3F22-6*	3/4"	VB030	VB030M	5.17	3.38	8.86	6.18	7.48	1.07	11.32	BK1/050A
E***/S3F22-8*	1"	VB030	VB030M	5.24	3.70	9.22	6.18	7.48	1.33	11.68	BK2/050B
E***/S3F22-10*	1-1/4"	VB060	VB060M	5.72	4.09	12.53	7.28	8.43	1.67	12.79	BK2/075B
E***/S3F22-12*	1-1/2"	VB110	VB110M	6.19	4.61	13.67	8.31	9.33	1.91	14.18	BK2/075B
E***/S3F22-16*	2"	VB110	VB110M	6.62	5.20	13.67	8.31	9.33	2.41	14.43	BK2/075B

Note: consult ordering matrix for options and materials



# S3FV Series Pneumatic Actuated Valves

## Features:

### Valve

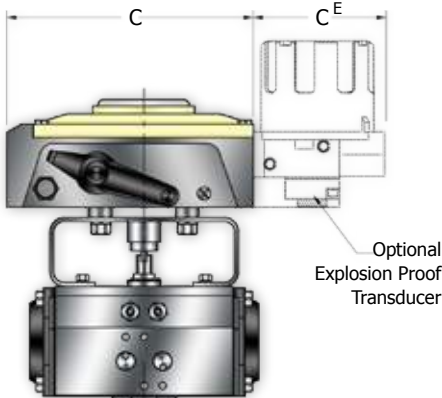
- Stainless Steel, Three-Piece, V-Cut Ball Valve
- ISO 5211 Mounting Pad, Blow Out Proof Stem, Anti-static Design
- 50% Stainless Steel / 50% PTFE Seats
- Temperature -18°F to 428°F
- Pressure: 1/2" to 2"-1000 PSI, 2 1/4" to 4"- 800 PSI
- Available in NPT and Socket Weld (dimensions same as NPT valves)

### Positioner

- NEMA 4X IP66 Base, Modular Compact Design, 100% Duty
- Available Intrinsically Safe and Explosion Safe, Single and Double Acting
- Maximum Supply Pressure 145 PSI,
- External Zero Adjustment

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Adjustable Stroke Adjustment
- Double Acting or Spring Return



### Double Acting Dimensions:

Part No.	Size NPT	Actuator	A	B	C	D	B <sup>E</sup>	C <sup>E</sup>	D <sup>E</sup>
PD/S3FV-4**	1/2"	DA52	2.57	9.29	5.88	2.82	1.57	3.42	0.44
PD/S3FV-6**	3/4"	DA52	3.11	9.52	5.88	2.82	1.57	3.42	0.44
PD/S3FV-8**	1"	DA52	3.38	9.86	5.88	2.82	1.57	3.42	0.44
PD/S3FV-10**	1-1/4"	DA63	4.13	10.62	6.61	3.29	1.57	3.42	0.44
PD/S3FV-12**	1-1/2"	DA63	4.68	11.33	6.61	3.29	1.57	3.42	0.44
PD/S3FV-16**	2"	DA63	5.23	11.63	6.61	3.29	1.57	3.42	0.44
PD/S3FV-20**	2-1/2"	DA85	6.46	13.20	9.47	4.17	1.57	3.42	0.44
PD/S3FV-24**	3"	DA85	7.19	13.58	9.47	4.17	1.57	3.42	0.44
PD/S3FV-32**	4"	DA100	9.28	14.65	10.83	4.84	1.57	3.42	0.44

### Spring Return Dimensions:

Part No.	Size NPT	Actuator	A	B	C	D	B <sup>E</sup>	C <sup>E</sup>	D <sup>E</sup>
P*/S3FV-4**	1/2"	SR63	2.57	10.38	6.61	3.29	1.57	3.42	0.44
P*/S3FV-6**	3/4"	SR63	3.11	10.17	6.61	3.29	1.57	3.42	0.44
P*/S3FV-8**	1"	SR75	3.38	10.98	7.32	3.73	1.57	3.42	0.44
P*/S3FV-10**	1-1/4"	SR85	4.13	11.26	9.47	4.17	1.57	3.42	0.44
P*/S3FV-12**	1-1/2"	SR85	4.68	11.86	9.47	4.17	1.57	3.42	0.44
P*/S3FV-16**	2"	SR100	5.23	12.72	10.83	4.84	1.57	3.42	0.44
P*/S3FV-20**	2-1/2"	SR115	6.46	14.67	13.11	5.39	1.57	3.42	0.44
P*/S3FV-24**	3"	SR125	7.19	15.50	14.65	5.83	1.57	3.42	0.44
P*/S3FV-32**	4"	SR160	9.28	17.92	19.69	7.32	1.57	3.42	0.44

**Note:** for flow chart see pg 23 in the manual ball valve catalog

\*\* Option

Available V-Port Configurations:



30 = 30°



60 = 60°



90 = 90°

\* Option

O = Fail open

C = Fail Close

1/8" NPT x 3  
Gauges Ports  
(gauges on request)  
1/4" NPT  
(x4)



# S3FV Series Electric Actuated Valves

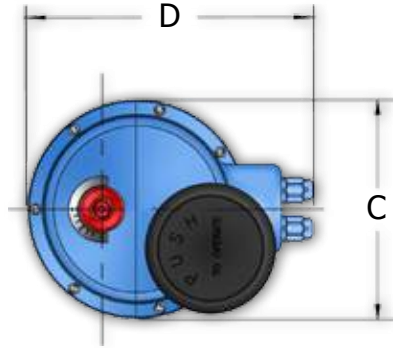
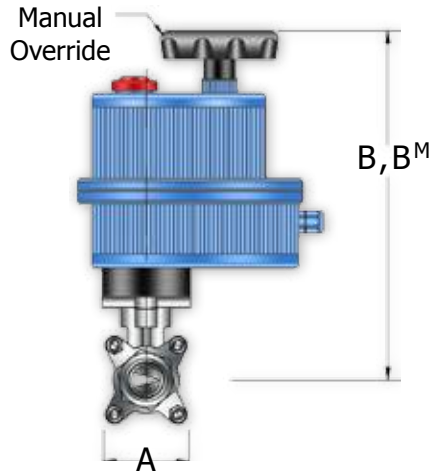
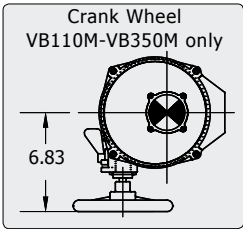


- Actuator Features:**
- VO Self Extinguishing Class Techno-Polymer
  - Metal Available on request
  - All Actuators IP67 (VB015 IP65)
  - Heater Thermostat and Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- Valve Features:**
- Stainless Steel, Three-Piece, V-Cut Ball Valve
  - ISO 5211 Mounting Pad
  - 50% Stainless Steel / 50% PTFE Seats
  - Class VI Shut-off
  - Available in NPT and Socket Weld
  - Temperature -18°F to 428°F

\*\*\* Actuator Voltage

**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC

B<sup>M</sup> = Optional Metal Actuator



\*\*\* Option

Available V-Port Configurations:

**30** = 30°    **60** = 60°    **90** = 90°

### Dimensions:

Part No.	Size	Actuator		A	B	C	D	B <sup>M</sup>
		Standard	Optional					
E***42/S3FV**-4	1/2"	VB030	VB030M	2.57	7.03	4.84	6.41	9.49
E***42/S3FV**-6	3/4"	VB030	VB030M	3.11	7.34	4.84	6.41	9.80
E***42/S3FV**-8	1"	VB030	VB030M	3.38	9.21	6.18	7.48	9.84
E***42/S3FV**-10	1-1/4"	VB030	VB030M	4.13	9.72	6.18	7.48	10.35
E***42/S3FV**-12	1-1/2"	VB060	VB060M	4.68	11.40	7.28	8.43	11.66
E***42/S3FV**-16	2"	VB060	VB060M	5.23	11.75	7.28	8.43	12.01
E***42/S3FV**-20	2-1/2"	VB110	VB110M	6.46	13.78	8.31	9.33	13.93
E***42/S3FV**-24	3"	VB110	VB110M	7.19	13.78	8.31	9.33	14.29
E***42/S3FV**-32	4"	VB270	VB270M	9.28	14.79	8.31	9.33	14.18



## STC Series Pneumatic Actuated Valves

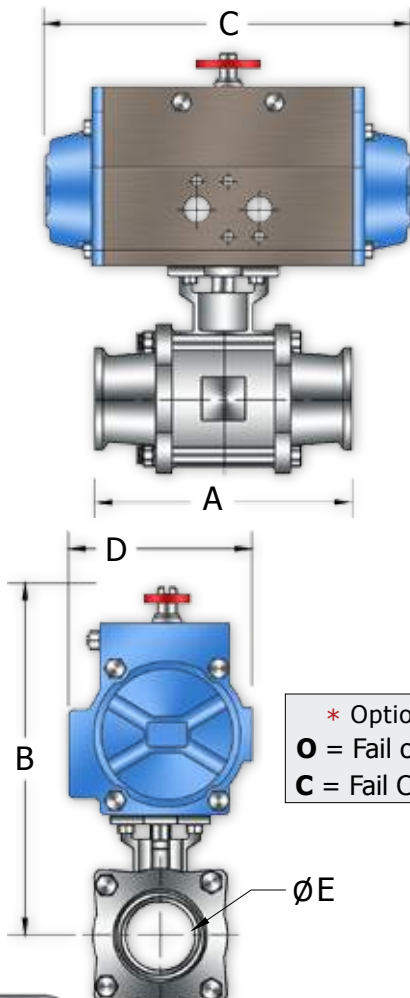
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- Stainless Steel Full Port
- Sanitary Tri-Clamp Ball Valve
- ISO 5211 Mounting Pad
- 29Hg – 1000psi WOG Cold Non-Shock
- Cavity Filled Teflon Seats (Standard Seats Optional)
- Temperature 0°F to 400°F
- Complies With FDA, USDA, and 3A



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	ØE
PD/STC-4	1/2"	DA52	3.50	5.30	5.88	2.82	0.37
PD/STC-6	3/4"	DA52	4.00	5.39	5.88	2.82	0.63
PD/STC-8	1"	DA52	4.50	5.76	5.88	2.82	0.87
PD/STC-12	1-1/2"	DA63	5.50	7.17	6.61	3.29	1.37
PD/STC-16	2"	DA75	6.25	7.63	8.27	3.72	1.87
PD/STC-20	2-1/2"	DA85	7.00	9.64	10.83	4.84	2.37
PD/STC-24	3"	DA100	9.00	10.34	10.83	4.84	2.88
PD/STC-32	4"	DA115	9.50	11.60	13.11	5.39	3.84
PD/STC-48	6"	C/F	15.50	C/F	C/F	C/F	5.78

### Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D	ØE
P*/STC-4	1/2"	SR63-04	3.50	5.95	6.61	3.29	0.37
P*/STC-6	3/4"	SR63-04	4.00	6.04	6.61	3.29	0.63
P*/STC-8	1"	SR85	4.50	7.29	9.47	4.17	0.87
P*/STC-12	1-1/2"	SR100	5.50	9.28	13.11	5.39	1.37
P*/STC-16	2"	SR115	6.25	9.65	13.11	5.39	1.87
P*/STC-20	2-1/2"	SR125	7.00	12.91	19.69	7.32	2.37
P*/STC-24	3"	SR140	9.00	13.22	19.69	7.32	2.88
P*/STC-32	4"	SR160	9.50	13.91	19.69	7.32	3.84
P*/STC-48	6"	C/F	15.50	C/F	C/F	C/F	C/F



# STC Series Electric Actuated Valves



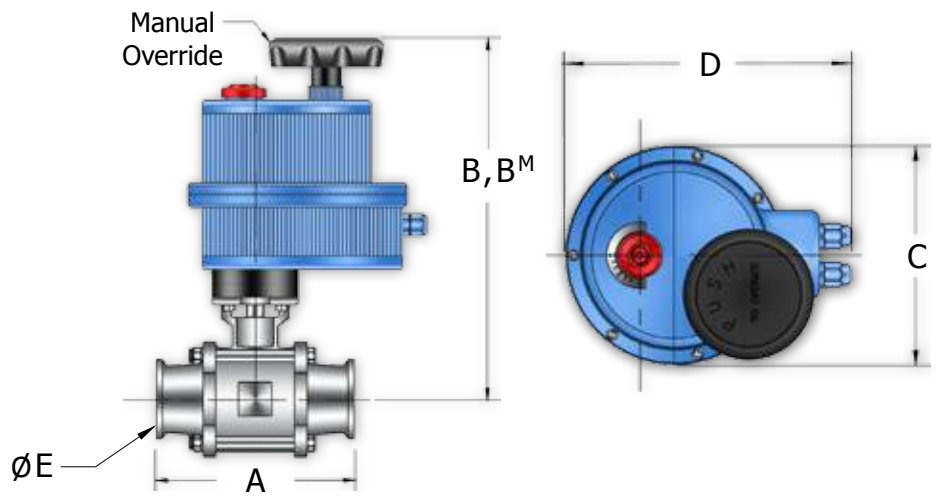
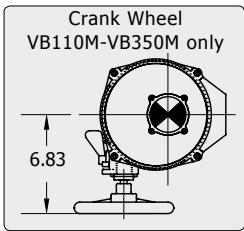
## Actuator Features:

- VO Self Extinguishing Class Techno-Polymer
- Metal Available on request
- All Actuators IP67 (VB015 IP65)
- Heater Thermostat and Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

## Valve

- Stainless Steel Full Port
- Sanitary Tri-Clamp Ball Valve
- ISO 5211 Mounting Pad
- 29Hg – 1000psi WOG Cold Non-Shock
- Cavity Filled Teflon Seats (Standard Seats Optional)
- Temperature 0°F to 400°F
- Complies With FDA, USDA, and 3A

\*\*\* Actuator Voltage  
**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC  
 B<sup>M</sup> = Optional Metal Actuator



## Dimensions:

Part No.	Size	Actuator		A	B	C	D	ØE	B <sup>M</sup>
		Standard	Optional						
E***/STC-4	1/2"	VB015	VB030M	3.50	7.24	4.84	6.41	0.37	9.70
E***/STC-6	3/4"	VB015	VB030M	3.50	7.33	4.84	6.41	0.63	9.79
E***/STC-8	1"	VB030	VB030M	4.50	7.70	4.84	6.41	0.87	10.16
E***/STC-12	1-1/2"	VB030	VB030M	5.50	10.29	6.18	7.48	1.37	10.92
E***/STC-16	2"	VB060	VB060M	6.25	11.72	6.94	7.82	1.87	11.98
E***/STC-20	2-1/2"	VB110	VB110M	7.00	13.35	10.68	9.71	2.37	13.86
E***/STC-24	3"	VB190	VB190M	9.00	13.91	10.68	9.71	2.88	14.42
E***/STC-32	4"	VB270	VB270M	9.50	14.40	10.89	10.08	3.84	15.01
E***/STC-48	6"	C/F	C/F	15.50	C/F	C/F	C/F	5.78	C/F



## STC TT & TL Series Pneumatic Actuated Valves



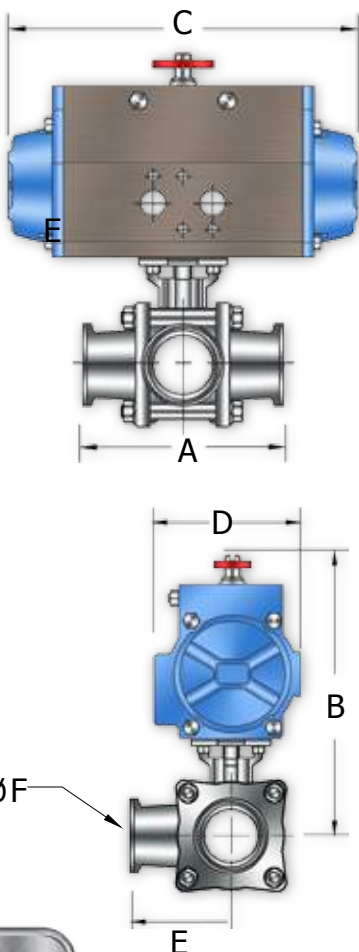
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- Stainless Steel 3-way
- Sanitary Tri-Clamp Ball Valve
- ISO 5211 Mounting Pad
- Temperature 0°F to 400°F
- Cavity Filled Teflon Seats Standard (Non-Cavity Filled Seats Optional)
- Meets FDA, USDA, and 3A Requirements (Cavity Filled Only)



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	ØF
PD/STC-8T*	1"	DA63	4.50	5.76	5.88	2.82	2.23	0.87
PD/STC-12T*	1-1/2"	DA63	5.50	7.17	6.61	3.29	2.44	1.37
PD/STC-16T*	2"	DA75	6.25	7.63	8.27	3.72	3.13	1.87
PD/STC-24T*	3"	DA100	9.00	10.34	10.83	4.84	4.75	2.88
PD/STC-32T*	4"	DA115	9.50	11.60	13.11	5.39	3.84	3.84

\* Option  
**T** = T-Port  
**L** = L-Port

\* Option  
**O** = Fail open  
**C** = Fail Close

### Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	ØF
P*/STC-8T*	1"	SR85	4.50	7.29	9.47	4.17	2.23	0.87
P*/STC-12T*	1-1/2"	SR100	5.50	9.28	13.11	5.39	2.44	1.37
P*/STC-16T*	2"	SR115	6.25	9.65	13.11	5.39	3.13	1.87
P*/STC-24T*	3"	SR140	9.00	13.22	19.69	7.32	4.75	2.88
P*/STC-32T*	4"	SR160	9.50	13.91	19.69	7.32	3.84	3.84

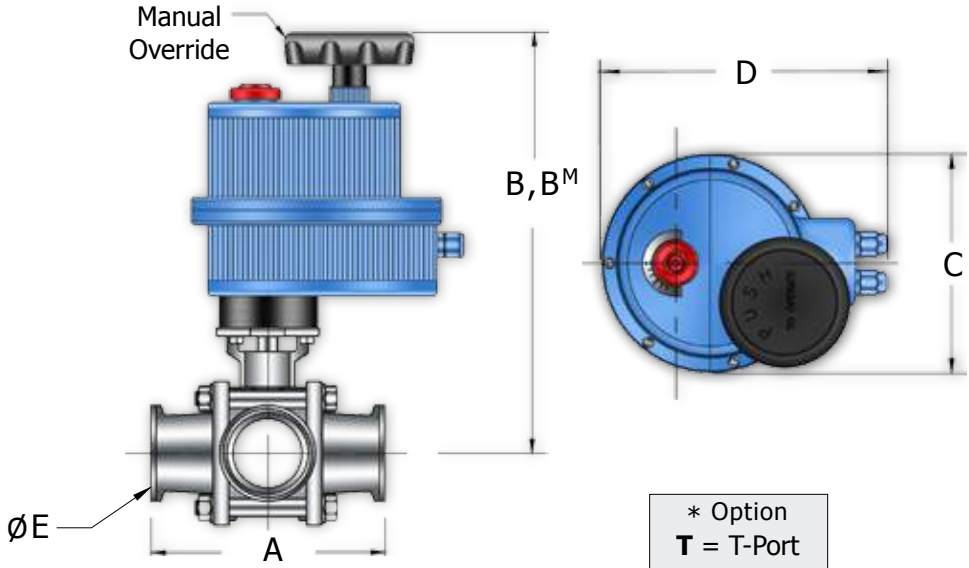
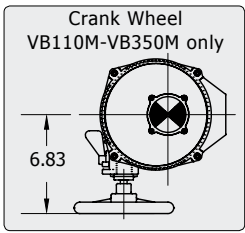


# STC TT & TL Series Electric Actuated Valves



- ### Actuator Features:
- VO Self Extinguishing Class Techno-Polymer
  - All Actuators IP67 (VB015 IP65)
  - Heater Thermostat Standard
  - Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- ### Valve
- Stainless Steel 3-way
  - Sanitary Tri-Clamp Ball Valve
  - ISO 5211 Mounting Pad
  - Cavity Filled Teflon Seats Standard (Non-Cavity Filled Seats Optional)
  - Meets FDA, USDA, and 3A Requirements (Cavity Filled Only)

\*\*\* Actuator Voltage  
**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC  
 B<sup>M</sup> = Optional Metal Actuator



\* Option  
**T** = T-Port  
**L** = L-Port

### Dimensions:

Part No.	Size	Actuator		A	B	C	D	E	ØE	B <sup>M</sup>
		Standard	Optional							
E***/STC-8T*	1"	VB030	VB030M	4.50	10.16	7.48	6.18	0.87	0.87	10.16
E***/STC-12T*	1-1/2"	VB060	VB060M	5.50	11.35	8.43	7.28	1.37	1.37	11.01
E***/STC-16T*	2"	VB060	VB060M	6.25	11.72	6.94	7.82	1.87	1.87	11.38
E***/STC-24T*	3"	VB110	VB110M	9.00	13.91	9.33	8.31	2.88	2.88	14.42
E***/STC-32T*	4"	VB190	VB190M	9.50	14.35	9.33	8.31	3.84	3.84	15.01



## CFM Series Pneumatic Actuated Valves



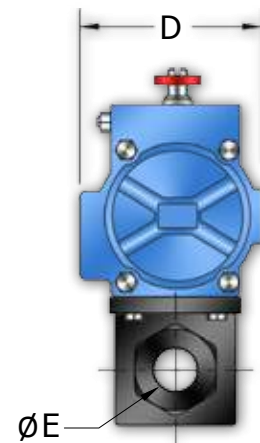
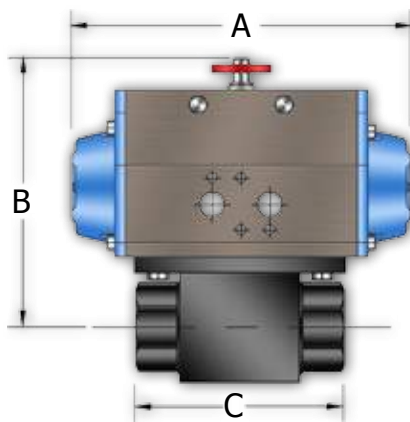
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- 2-way Carbon Steel Full Port
- ¼" - ½" 7350 psi WOG
- 1" - 1-½" 5145 psi WOG
- ¾" & 2" 5880 psi WOG
- Delrin® Seats and Viton® O-rings
- -20°F to 215°F



\* Option  
**O** = Fail open  
**C** = Fail Close

### Double Acting Dimensions:

NPT Part No.	Size	SAE Part No.	Size	Actuator	A	B	C	D	ØE	PSI
PD/CFM-2	1/4"	PD/CFM-S4	7/16"-20	DA52	2.72	4.58	5.88	2.82	0.24	7350
PD/CFM-3	3/8"	PD/CFM-S6	9/16"-18	DA52	2.87	4.67	5.88	2.82	0.39	7350
PD/CFM-4	1/2"	PD/CFM-S8	3/4"-16	DA52	3.62	4.69	5.58	2.82	0.51	7350
PD/CFM-6	3/4"	PD/CFM-S12	1-1/16"-12	DA63	3.82	5.94	6.61	3.29	0.78	6000
PD/CFM-8	1"	PD/CFM-S16	1-5/16"-12	DA63	4.45	5.98	6.61	3.29	0.94	6000
PD/CFM-10	1-1/4"	PD/CFM-S20	1-5/8"-12	DA100	5.16	5.84	10.83	4.84	1.18	6000
PD/CFM-12	1-1/2"	PD/CFM-S24	1-7/8"-12	DA115	5.47	6.46	13.11	5.39	1.37	6000
PD/CFM-16	2"	PD/CFM-S32	2-1/2"-12	DA140	5.50	10.66	17.13	6.46	1.73	6000

### Spring Return Dimensions:

NPT Part No.	Size	SAE Part No.	Size	Actuator	A	B	C	D	ØE	PSI
P*/CFM-2	1/4"	P*/CFM-S4	7/16"-20	SR75	2.72	5.70	7.32	3.73	0.24	7350
P*/CFM-3	3/8"	P*/CFM-S6	9/16"-18	SR75	2.87	5.79	7.32	3.73	0.39	7350
P*/CFM-4	1/2"	P*/CFM-S8	3/4"-16	SR85	3.62	5.98	9.47	4.17	0.51	7350
P*/CFM-6	3/4"	P*/CFM-S12	1-1/16"-12	SR85	3.82	6.58	9.47	4.17	0.78	6000
P*/CFM-8	1"	P*/CFM-S16	1-5/16"-12	SR100	4.45	6.58	10.83	4.84	0.94	6000
P*/CFM-10	1-1/4"	P*/CFM-S20	1-5/8"-12	SR140	5.16	9.46	17.13	6.46	1.18	6000
P*/CFM-12	1-1/2"	P*/CFM-S24	1-7/8"-12	SR160	5.47	10.40	19.69	8.70	1.37	6000
P*/CFM-16	2"	P*/CFM-S32	2-1/2"-12	SR200	5.50	14.10	22.76	8.54	1.73	6000





# CFM TT & TL Series Pneumatic Actuated Valves



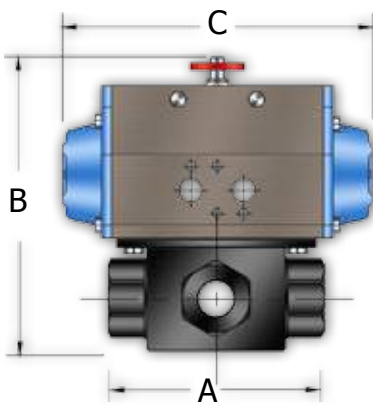
## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

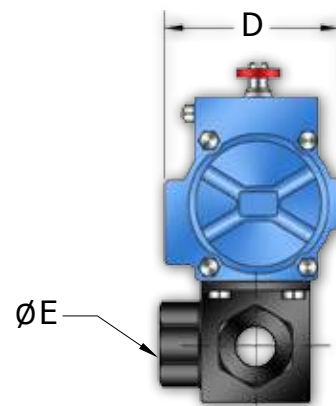
### Valve

- 3-way Carbon Steel Full Port
- ¼" – 3/8" 5880 psi WOG
- ½" - 2" 5145psi WOG
- Delrin® Seats and Viton® O-rings
- -20°F to 215°F



\* Option  
**T** = T-Port  
**L** = L-Port

\* Option  
**O** = Fail open  
**C** = Fail Close



## Double Acting Dimensions:

NPT Part No.	Size	SAE Part No.	Size	Actuator	A	B	C	D	øE	PSI
PD/CFM-2T*	1/4"	PD/CFM-S4T*	7/16"-20	DA52	2.72	4.58	5.88	2.82	0.24	7350
PD/CFM-3T*	3/8"	PD/CFM-S6T*	9/16"-18	DA52	2.87	4.67	5.88	2.82	0.39	7350
PD/CFM-4T*	1/2"	PD/CFM-S8T*	3/4"-16	DA52	3.62	4.69	5.58	2.82	0.51	7350
PD/CFM-6T*	3/4"	PD/CFM-S12T*	1-1/16"-12	DA63	3.82	5.94	6.61	3.29	0.78	6000
PD/CFM-8T*	1"	PD/CFM-S16T*	1-5/16"-12	DA63	4.45	5.98	6.61	3.29	0.94	6000
PD/CFM-10T*	1-1/4"	PD/CFM-S20T*	1-5/8"-12	DA100	5.16	5.84	10.83	4.84	1.18	6000
PD/CFM-12T*	1-1/2"	PD/CFM-S24T*	1-7/8"-12	DA115	5.47	6.46	13.11	5.39	1.37	6000
PD/CFM-16T*	2"	PD/CFM-S32T*	2-1/2"-12	DA140	5.50	10.66	17.13	6.46	1.73	6000

## Spring Return Dimensions:

NPT Part No.	Size	SAE Part No.	Size	Actuator	A	B	C	D	øE	PSI
P*/CFM-2T*	1/4"	P*/CFM-S4T*	7/16"-20	SR75	2.72	5.70	7.32	3.73	0.24	7350
P*/CFM-3T*	3/8"	P*/CFM-S6T*	9/16"-18	SR75	2.87	5.79	7.32	3.73	0.39	7350
P*/CFM-4T*	1/2"	P*/CFM-S8T*	3/4"-16	SR85	3.62	5.98	9.47	4.17	0.51	7350
P*/CFM-6T*	3/4"	P*/CFM-S12T*	1-1/16"-12	SR85	3.82	6.58	9.47	4.17	0.78	6000
P*/CFM-8T*	1"	P*/CFM-S16T*	1-5/16"-12	SR100	4.45	6.58	10.83	4.84	0.94	6000
P*/CFM-10T*	1-1/4"	P*/CFM-S20T*	1-5/8"-12	SR140	5.16	9.46	17.13	6.46	1.18	6000
P*/CFM-12T*	1-1/2"	P*/CFM-S24T*	1-7/8"-12	SR160	5.47	10.40	19.69	8.70	1.37	6000
P*/CFM-16T*	2"	P*/CFM-S32T*	2-1/2"-12	SR200	5.50	14.10	22.76	8.54	1.73	6000



# FF150 Series Pneumatic Actuated Valves

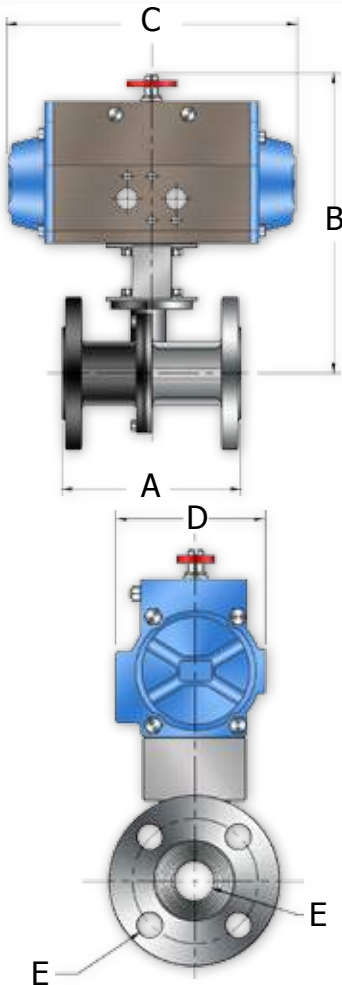
## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

- Full Port Split Body ANSI Class 150
- Class 150 29Hg – 285psi, Cold Non-Shock
- Live Loaded Stem Design, Anti-Static Device
- Temp -50°F to 400°F
- Fire Safe Approved API 607-4
- Available with Optional Seats and V-Ball Option C/F



## Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	F	Bracket Kit
PD/*2FF150-4	1/2"	DA52	4.25	6.74	5.88	2.82	0.59	0.63x4	BK1-050A
PD/*2FF150-6	3/4"	DA52	4.62	6.74	5.88	2.82	0.79	0.63x4	BK1-050A
PD/*2FF150-8	1"	DA52	5.00	7.26	5.88	2.82	0.98	0.63x4	BK1-050B
PD/*2FF150-12	1-1/2"	DA63	6.50	8.15	6.61	3.29	1.50	0.63x4	BK1-063B
PD/*2FF150-16	2"	DA75	7.00	9.52	7.32	3.73	1.97	0.63x4	BK2-063C
PD/*2FF150-24	3"	DA100	8.00	13.60	10.83	4.84	3.00	0.75x4	BK2-063C
PD/*2FF150-32	4"	DA115	9.00	17.81	13.11	5.39	4.00	0.75x4	BK3-100D
PD/*2FF150-48	6"	DA180	15.50	21.19	19.41	8.38	5.98	0.88x8	BK3-C/F
PD/*2FF150-64	8"	DA230	18.00	23.29	27.17	9.78	7.87	0.88x8	BK4-C/F

\* Option  
**S** = Stainless  
**C** = Carbon

\* Option  
**O** = Fail open  
**C** = Fail Close

## Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	F	Bracket Kit
P*/*2FF150-4	1/2"	SR63	4.25	7.55	6.61	3.29	0.59	0.63x4	BK1-063A
P*/*2FF150-6	3/4"	SR63	4.62	7.85	6.61	3.29	0.79	0.63x4	BK1-075A
P*/*2FF150-8	1"	SR63	5.00	7.91	6.61	3.29	0.98	0.63x4	BK1-075B
P*/*2FF150-12	1-1/2"	SR100	6.50	9.88	10.83	4.84	1.50	0.63x4	BK1-075B
P*/*2FF150-16	2"	SR115	7.00	11.29	13.11	5.39	1.97	0.63x4	BK2-075DM
P*/*2FF150-24	3"	SR140	8.00	16.42	17.13	6.46	3.00	0.88x8	BK3-100D
P*/*2FF150-32	4"	SR180	9.00	18.48	19.69	7.32	4.00	0.88x8	BK4-270EL
P*/*2FF150-48	6"	SR270	15.50	26.94	28.46	11.42	5.98	0.88x8	BK3-C/F
P*/*2FF150-64	8"	C/F	18.00	C/F	C/F	C/F	7.87	0.88x8	C/F



# FF150 Series Electric Actuated Valves



## Actuator Features:

- Aluminum Alloy Enclosure w/Poly Powder Coating
- All Actuators IP67
- Heater Thermostat Standard
- Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

## Valve

- Full Port Split Body ANSI Class 150
- Class 150 29Hg – 285psi, Cold Non-Shock
- Live Loaded Stem Design, Anti-Static Device
- Temp -50°F to 400°F
- Fire Safe Approved API 607-4
- Available with Optional Seats and V-Ball Option C/F

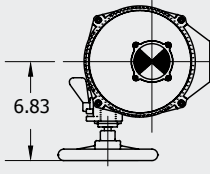
### \*\*\* Actuator Voltage

- 115V** = 115VAC
- 240V** = 240VAC
- 012D** = 12VDC
- 024D** = 24VDC

B<sup>M</sup> = Metal Actuator Std.

B = Optional ABS Actuator

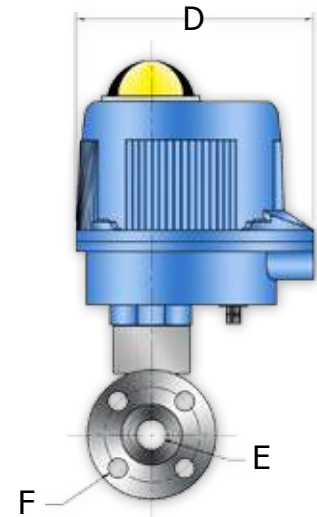
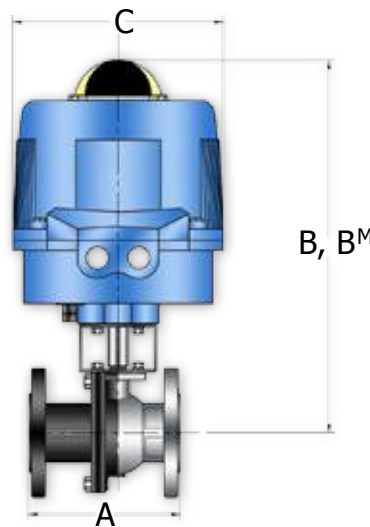
Crank Wheel  
VB110M-VB350M only



\* Option

S = Stainless

C = Carbon



## Dimensions:

Part No.	Size	Actuator		A	B <sup>M</sup>	B	C	D	E	F	Bracket Kit
		Standard	Optional								
E***M/*2FF150-4	1/2"	VB030M	VB030	5.50	12.20	12.06	6.33	7.34	0.59	0.63x4	BK1-050A
E***M/*2FF150-6	3/4"	VB030M	VB030	6.00	12.51	12.37	6.33	7.34	0.79	0.63x4	BK1-050A
E***M/*2FF150-8	1"	VB030M	VB030	6.50	13.03	12.89	6.33	7.34	0.98	0.63x4	BK1-050B
E***M/*2FF150-12	1-1/2"	VB060M	VB060	7.50	14.72	14.11	6.94	7.82	1.50	0.63x4	BK2-063C
E***M/*2FF150-16	2"	VB060M	VB060	8.50	15.12	14.51	6.94	7.82	1.97	0.63x4	BK2-075C
E***M/*2FF150-24	3"	VB190M	VB190	11.12	17.32	17.70	10.68	9.71	3.00	0.88x8	BK3-075D
E***M/*2FF150-32	4"	VB270M	VB270	12.00	18.20	18.56	10.89	10.08	4.00	0.88x8	BK3-075D



# FF300 Series Pneumatic Actuated Valves

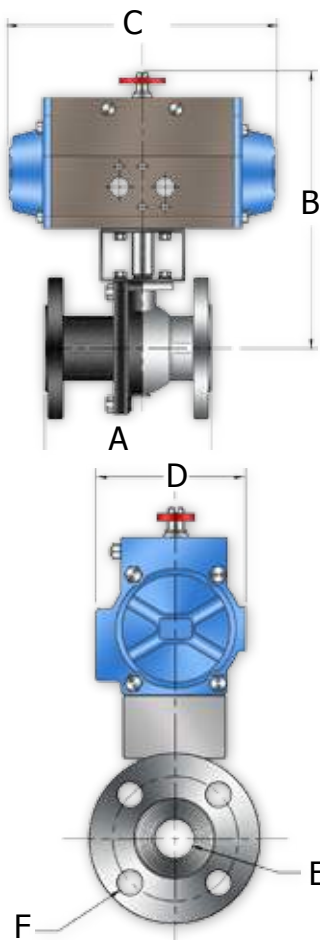
## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

- Full Port Split Body ANSI Class 300
- Class 300 29Hg - 740psi, Cold Non-Shock
- Live Loaded Stem Design, Anti-Static Device
- Temp -50°F to 400°F
- Fire Safe Approved API 607-4
- Available with Optional Seats and V-Ball Option C/F



## Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	F	Bracket Kit
PD/*2FF300-4	1/2"	DA52	5.50	6.74	5.88	2.82	0.59	0.63x4	BK1-050A
PD/*2FF300-6	3/4"	DA52	6.00	6.74	5.88	2.82	0.79	0.63x4	BK1-050A
PD/*2FF300-8	1"	DA52	6.50	7.26	5.88	2.82	0.98	0.63x4	BK1-050B
PD/*2FF300-12	1-1/2"	DA63	7.50	8.15	6.61	3.29	1.50	0.63x4	BK2-063C
PD/*2FF300-16	2"	DA75	8.50	9.52	7.32	3.73	1.97	0.63x4	BK2-075C
PD/*2FF300-24	3"	DA100	11.12	13.12	10.83	4.84	3.00	0.88x8	BK2-075D
PD/*2FF300-32	4"	DA125	12.00	14.28	14.65	5.83	4.00	0.88x8	BK2-075D
PD/*2FF300-48	6"	DA180	15.88	21.20	19.41	8.38	5.98	0.88x12	BK3-C/F
PD/*2FF300-64	8"	DA230	19.75	26.31	27.17	9.78	7.87	1.00x12	BK4-C/F

\* Option  
**S** = Stainless  
**C** = Carbon

\* Option  
**O** = Fail open  
**C** = Fail Close

## Spring Return Dimensions:

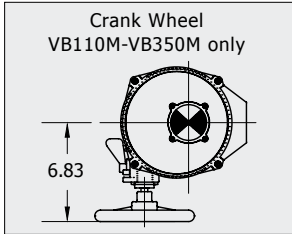
Part No.	Size	Actuator	A	B	C	D	E	F	Bracket Kit
P*/*2FF300-4	1/2"	SR63	5.50	7.55	6.61	3.29	0.59	0.63x4	BK1-063A
P*/*2FF300-6	3/4"	SR63	6.00	7.85	6.61	3.29	0.79	0.63x4	BK1-075A
P*/*2FF300-8	1"	SR63	6.50	7.91	6.61	3.29	0.98	0.63x4	BK1-075B
P*/*2FF300-12	1-1/2"	SR100	7.50	9.96	10.83	4.84	1.50	0.63x4	BK2-075C
P*/*2FF300-16	2"	SR115	8.50	12.17	13.11	5.39	1.97	0.63x4	BK2-075C
P*/*2FF300-24	3"	SR140	11.12	16.39	19.69	7.32	3.00	0.88x8	BK3-125D
P*/*2FF300-32	4"	SR180	12.00	18.38	19.41	8.38	4.00	0.88x8	BK3-125D
P*/*2FF300-48	6"	SR270	15.88	26.94	28.46	11.42	5.98	0.88x12	BK4-C/F
P*/*2FF300-64	8"	C/F	19.75	C/F	C/F	C/F	7.87	1.00x12	C/F



# FF300 Series Electric Actuated Valves



- ### Features:
- Actuator**
    - Aluminum Alloy Enclosure w/Poly Powder Coating
    - All Actuators IP67
    - Heater Thermostat Standard
    - Manual Override Standard
    - Two Auxiliary Limit Switches Standard
    - Battery Backup or 4-20mA Positioner Optional
  - Valve**
    - Full Port Split Body ANSI Class 300
    - Class 300 29Hg - 740psi, Cold Non-Shock
    - Live Loaded Stem Design, Anti-Static Device
    - Temp -50°F to 400°F
    - Fire Safe Approved API 607-4
    - Available with Optional Seats and V-Ball Option C/F

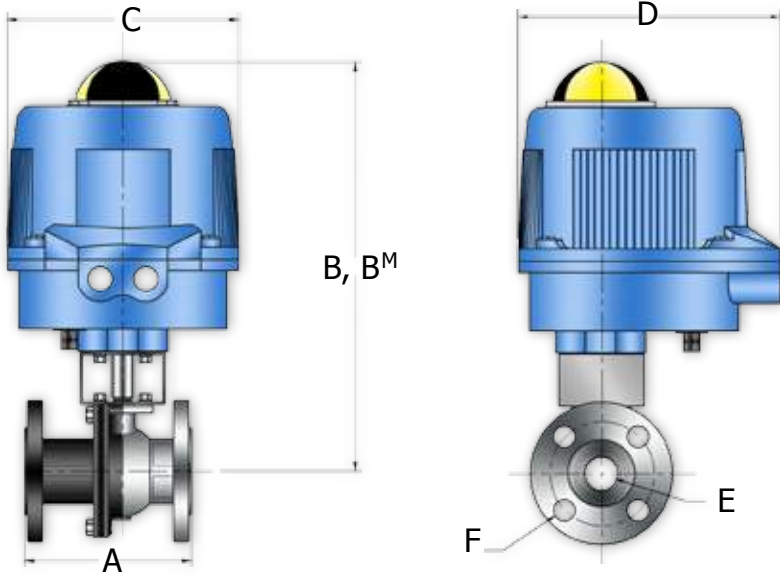


\*\*\* Actuator Voltage

**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC

B<sup>M</sup> = Metal Actuator Std.  
 B = Optional ABS Actuator

\* Option  
**S** = Stainless  
**C** = Carbon



### Dimensions:

Part No.	Size	Actuator		A	B <sup>M</sup>	B	C	D	E	E	Bracket Kit
		Standard	Optional								
E**M/*2FF300-4	1/2"	VB030M	VB030	5.50	12.20	12.06	6.33	7.34	0.59	0.63x4	BK1-050A
E**M/*2FF300-6	3/4"	VB030M	VB030	6.00	12.51	12.36	6.33	7.34	0.79	0.63x4	BK1-050A
E**M/*2FF300-8	1"	VB030M	VB030	6.50	13.03	12.89	6.33	7.34	0.98	0.63x4	BK1-050B
E**M/*2FF300-12	1-1/2"	VB060M	VB060	7.50	14.72	14.11	6.94	7.82	1.50	0.63x4	BK2-063C
E**M/*2FF300-16	2"	VB060M	VB060	8.50	15.12	14.51	6.94	7.82	1.97	0.63x4	BK2-075C
E**M/*2FF300-24	3"	VB190M	VB190	11.12	17.32	17.70	10.68	9.71	3.00	0.88x8	BK3-075D
E**M/*2FF300-32	4"	VB270M	VB270	12.00	18.20	18.56	10.89	10.08	4.00	0.88x8	BK3-075D



# FF150 TT & TL Series Pneumatic Actuated Valves



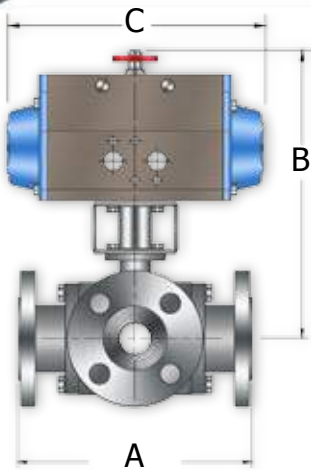
## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

- Full Port 3-Way ANSI Class 150 Flange Valve
- Available in T and L Port
- 3 Seat Design Maintains Proper Ball Position
- Available with Optional Seats



### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	F	G	Bracket Kit
PD/*2FF150T*-6	3/4"	DA63	6.65	8.47	6.61	3.29	0.63x4	3.33	2.75	BK1-050A
PD/*2FF150T*-8	1"	DA75	7.30	8.98	7.32	3.73	0.63x4	3.65	3.12	BK1-050A
PD/*2FF150T*-12	1-1/2"	DA85	7.17	9.28	9.47	4.17	0.63x4	3.57	3.88	BK1-050B
PD/*2FF150T*-16	2"	DA100	8.66	10.18	10.83	4.84	0.75x4	5.99	4.75	BK2-075C
PD/*2FF150T*-24	3"	DA115	11.26	11.89	13.11	5.39	0.75x4	6.83	5.62	BK3-075D
PD/*2FF150T*-32	4"	DA140	13.66	15.40	17.13	6.46	0.75x8	6.83	7.50	BK3-075D
PD/*2FF150T*-48	6"	DA230	16.77	23.32	27.17	12.80	0.90x8	8.38	9.50	BK3-125D
PD/*2FF150T*-64	8"	DA270	20.94	27.33	27.80	11.58	0.90x8	10.47	11.75	BK4-270EL

\* Option

O = Fail open

C = Fail Close

\* Option

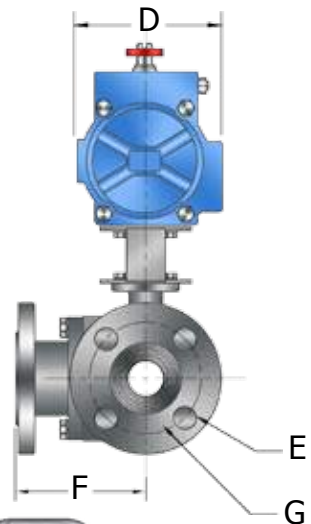
S = Stainless

C = Carbon

\* Option

T = T-Port

L = L-Port



### Spring Return Dimensions:

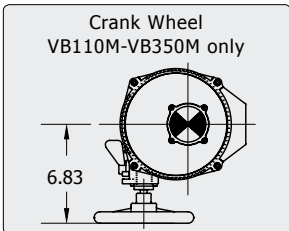
Part No.	Size	Actuator	A	B	C	D	E	F	G	Bracket Kit
P*/*2FF150-6T*	3/4"	SR100	6.65	9.93	10.83	4.84	0.63x4	3.33	2.75	BK1-063A
P*/*2FF150-8T*	1"	SR115	7.30	10.75	13.11	5.39	0.63x4	3.65	3.12	BK1-075A
P*/*2FF150-12T*	1-1/2"	SR115	7.17	11.09	13.11	5.39	0.63x4	3.57	3.88	BK1-075B
P*/*2FF150-16T*	2"	SR140	8.66	15.40	17.13	6.46	0.75x4	4.33	4.75	BK2-075C
P*/*2FF150-24T*	3"	SR180	11.26	16.34	16.69	7.32	0.75x4	5.62	6.00	BK3-125D
P*/*2FF150-32T*	4"	SR230	13.66	21.70	21.17	9.78	0.75x8	6.83	7.50	BK3-125D



# FF150 TT & TL Series Electric Actuated Valves



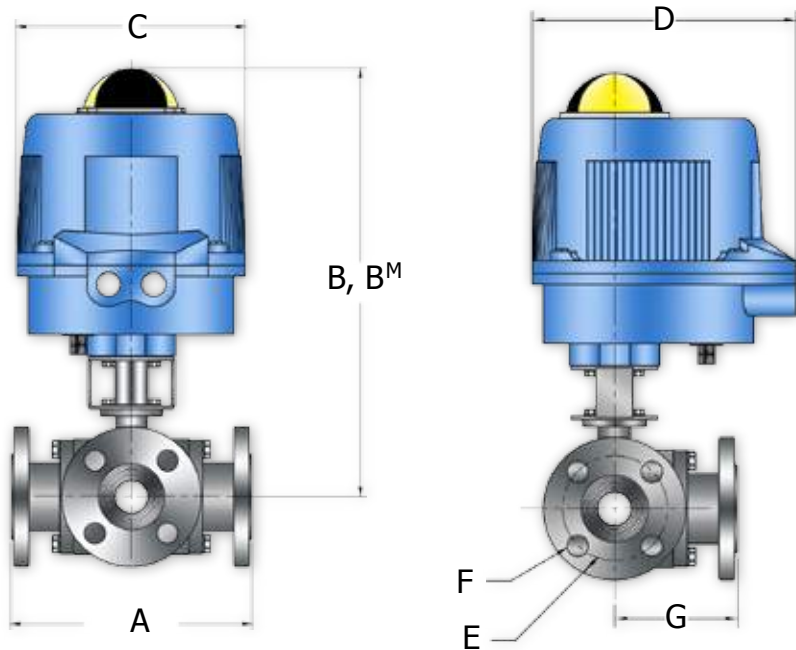
- ### Features:
- Actuator**
- Aluminum Alloy Enclosure w/Poly Powder Coating
  - All Actuators IP67
  - Heater Thermostat Standard
  - Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- Valve**
- Full Port 3-Way ANSI Class 150 Flange Valve
  - Available in T and L Port
  - 3 Seat Design Maintains Proper Ball Position
  - Available with Optional Seats



\*\*\* Option  
Actuator Voltage  
**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC  
 B<sup>M</sup> = Metal Actuator Std.  
 B = Optional ABS Actuator

\* Option  
**S** = Stainless  
**C** = Carbon

\* Option  
**T** = T-Port  
**L** = L-Port



### Dimensions:

Part No.	Size	Actuator		A	B <sup>M</sup>	B	C	D	E	F	G	Bracket Kit
		Standard	Optional									
E***M/*2FF150T*-6	3/4"	VB060M	VB060	6.65	13.52	12.91	6.94	7.82	2.75	0.63x4	3.33	BK1-050A
E***M/*2FF150T*-8	1"	VB060M	VB060	7.30	13.56	12.95	6.94	7.82	3.12	0.63x4	3.65	BK1-050B
E***M/*2FF150T*-12	1-1/2"	VB110M	VB110	7.17	14.00	14.38	10.68	9.71	3.88	0.63x4	3.57	BK2-063C
E***M/*2FF150T*-16	2"	VB110M	VB110	8.66	14.39	14.77	10.68	9.71	4.75	0.63x4	4.33	BK2-075C
E***M/*2FF150T*-24	3"	VB270M	VB270	11.26	17.42	17.78	10.89	10.08	6.00	0.75x4	5.62	BKS-075D



## FF150DM Series Pneumatic Actuated Valves

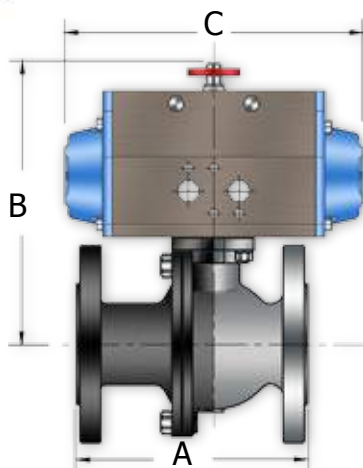
### Features:

#### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

#### Valve

- Full Port ANSI Class 150 Flange Valve
- ISO 5211 Mounting Pad
- Available with V-Ball Option C/F
- Fire Safe Certified to API607, 6TH Edition
- Designed to ANSI B16.5, B16.10, B16.34
- Complies with NACE MR 0175/ISO 15156 and NACE MR 0103

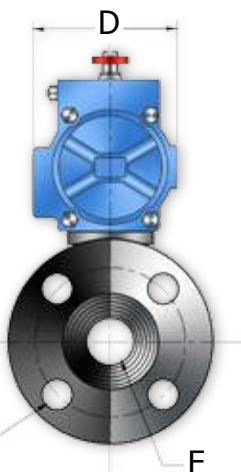


### Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	F
PD/*2FF150DM-8	1"	DA52	5.00	5.92	5.88	2.82	0.63x4	0.98
PD/*2FF150DM-12	1-1/2"	DA63	6.50	7.43	6.61	3.29	0.63x4	1.50
PD/*2FF150DM-16	2"	DA75	7.01	8.28	7.32	3.73	0.63x4	1.97
PD/*2FF150DM-24	3"	DA85	7.99	9.64	9.47	4.17	0.75x4	3.00
PD/*2FF150DM-32	4"	DA100	10.05	10.72	10.83	4.84	0.75x8	4.00

\* Option  
**S** = Stainless  
**C** = Carbon

\* Option  
**O** = Fail open  
**C** = Fail Close



### Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	F
P*/*2FF150DM-8	1"	SR63	5.00	6.53	6.61	3.29	0.63x4	0.98
P*/*2FF150DM-12	1-1/2"	SR85	6.50	8.07	9.47	4.17	0.63x4	1.50
P*/*2FF150DM-16	2"	SR100	7.01	8.96	10.83	4.84	0.63x4	1.97
P*/*2FF150DM-24	3"	SR125	7.99	11.59	14.65	5.83	0.75x4	3.00
P*/*2FF150DM-32	4"	SR125	9.02	12.16	14.65	5.83	0.75x8	4.00





# FF150DM Series Electric Actuated Valves

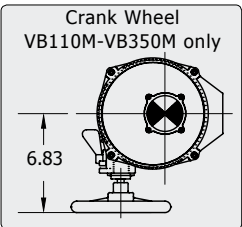


- ### Features:
- Actuator**
- Aluminum Alloy Enclosure w/Poly Powder Coating
  - All Actuators IP67
  - Heater Thermostat Standard
  - Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- Valve**
- Full Port ANSI Class 150 Flange Valve
  - ISO 5211 Mounting Pad
  - Available with V-Ball Option C/F
  - Fire Safe Certified to API607, 6TH Edition
  - Designed to ANSI B16.5, B16.10, B16.34
  - Complies with NACE MR 0175/ISO 15156 and NACE MR 0103

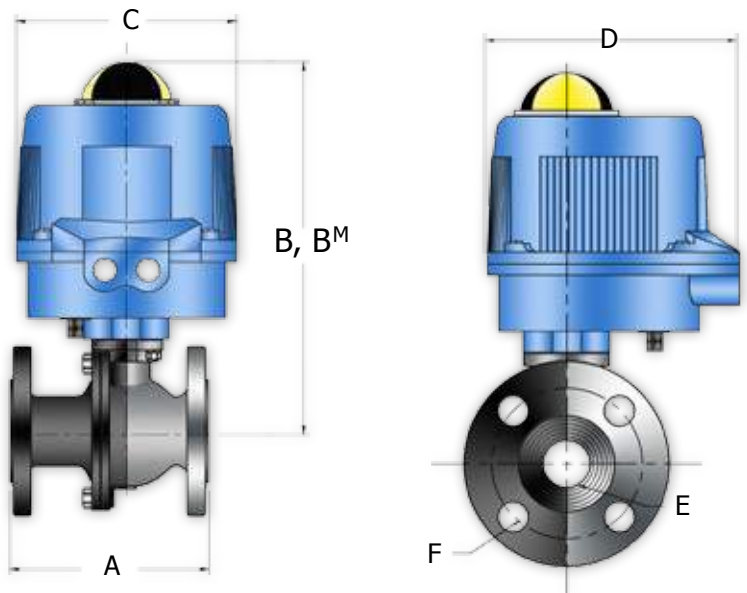
\*\*\* Actuator Voltage

**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC

B<sup>M</sup> = Metal Actuator Std.  
 B = Optional ABS Actuator



\* Option  
**S** = Stainless  
**C** = Carbon



### Dimensions:

Part No.	Size	Actuator		A	B <sup>M</sup>	B	C	D	E	F
		Standard	Optional							
E***M/*2FF150DM-8	1"	VB030M	VB030	5.00	10.32	9.69	6.33	7.34	0.98	0.63x4
E***M/*2FF150DM-12	1-1/2"	VB060M	VB060	6.50	11.87	11.61	6.94	7.82	1.50	0.63x4
E***M/*2FF150DM-16	2"	VB060M	VB060	7.00	12.25	11.99	6.94	7.82	1.97	0.63x4
E***M/*2FF150DM-24	3"	VB110M	VB110	8.00	14.37	13.86	10.68	9.71	3.00	0.75x4
E***M/*2FF150DM-32	4"	VB190M	VB190	9.00	14.94	14.43	10.89	9.71	4.00	0.75x8



# WFF 150 Series Pneumatic Actuated Valves



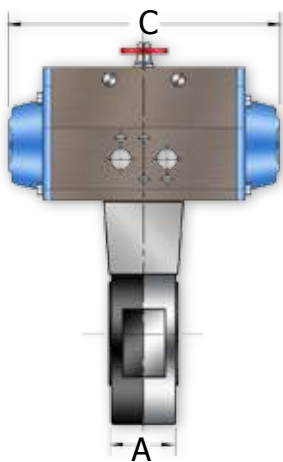
## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

- Full Port Wafer ANSI Class 150
- Class 150 29Hg – 285psi, Cold Non-Shock
- Stainless Steel Ball and Stem
- Blow-Out Proof Stem with Adjustable Stem Packing
- Temperature -4°F to 366°F
- Available with V-Ball Option C/F



## Double Acting Dimensions:

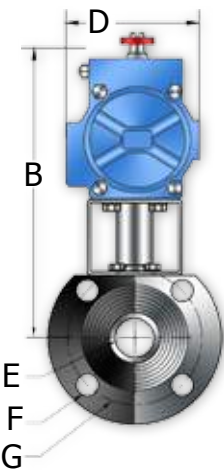
Part No.	Size	Actuator	A	B	C	D	E	F	G	Bracket Kit
PD/*WFF150-4	1/2"	DA32	1.37	5.78	5.10	2.02	0.59	4 x 0.50	3.50	RI3012
PD/*WFF150-6	3/4"	DA52	1.57	7.04	5.10	2.82	0.78	4 x 0.50	3.88	RI3013
PD/*WFF150-8	1"	DA52	1.81	7.27	5.10	2.82	0.98	4 x 0.50	4.25	RI3001
PD/*WFF150-10	1-1/4"	DA52	2.12	7.52	5.10	2.82	1.26	4 x 0.50	4.62	RI3008
PD/*WFF150-12	1-1/2"	DA63	2.50	8.79	6.61	3.29	1.57	4 x 0.50	5.00	RI3002
PD/*WFF150-16	2"	DA75	3.22	9.59	7.32	3.73	1.97	4 x 0.63	6.00	RI3009
PD/*WFF150-20	2-1/2"	DA85	4.05	10.33	9.47	4.17	2.52	4 x 0.63	7.00	RI3003
PD/*WFF150-24	3"	DA85	4.80	10.72	9.47	4.17	2.99	4 x 0.63	7.50	RI3003
PD/*WFF150-32	4"	DA100	5.98	11.87	10.83	4.84	3.74	8 x 0.63	9.00	RI3004
PD/*WFF150-40	5"	DA115	7.71	14.51	13.11	5.39	4.92	8 x 0.75	10.00	RI3005
PD/*WFF150-48	6"	DA125	9.13	15.98	14.65	5.83	5.91	8 x 0.75	11.00	RI3006

\* Option

- = Fail open
- = Fail Close

\* Option

- S = Stainless
- C = Carbon



## Spring Return Dimensions:

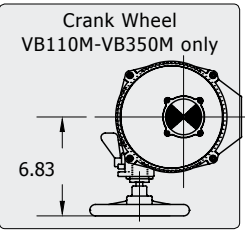
Part No.	Size	Actuator	A	B	C	D	E	F	G	Bracket Kit
P*/*WFF150-4	1/2"	SR52	1.37	6.87	5.10	2.82	0.59	4 x 0.50	3.50	RI3780
P*/*WFF150-6	3/4"	SR63	1.57	7.77	6.61	3.29	0.78	4 x 0.50	3.88	RI3014
P*/*WFF150-8	1"	SR63	1.81	8.24	6.61	3.29	0.98	4 x 0.50	4.25	RI3007
P*/*WFF150-10	1-1/4"	SR63	2.12	8.05	6.61	3.29	1.26	4 x 0.50	4.62	RI3048
P*/*WFF150-12	1-1/2"	SR85	2.50	9.43	9.47	4.17	1.57	4 x 0.50	5.00	RI3009
P*/*WFF150-16	2"	SR100	3.22	10.27	10.83	4.84	1.97	4 x 0.63	6.00	RI3009
P*/*WFF150-20	2-1/2"	SR115	4.05	11.80	13.11	5.39	2.52	4 x 0.63	7.00	RI3010
P*/*WFF150-24	3"	SR125	4.80	12.37	14.65	5.83	2.99	4 x 0.63	7.50	RI3010
P*/*WFF150-32	4"	SR125	5.98	13.28	14.65	5.83	3.74	8 x 0.63	9.00	RI3005
P*/*WFF150-40	5"	SR140	7.71	15.56	17.13	6.46	4.92	8 x 0.75	10.00	RI3037
P*/*WFF150-48	6"	SR160	9.13	17.49	19.69	7.32	5.91	8 x 0.75	11.00	RI3037



# WFF 150 Series Electric Actuated Valves



- ## Features:
- Actuator**
- Aluminum Alloy Enclosure w/Poly Powder Coating
  - All Actuators IP67
  - Heater Thermostat Standard
  - Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- Valve**
- Full Port Wafer ANSI Class 150
  - Class 150 29Hg – 285psi, Cold Non-Shock
  - Stainless Steel Ball and Stem
  - Blow-Out Proof Stem with Adjustable Stem Packing
  - Temperature -4°F to 366°F
  -

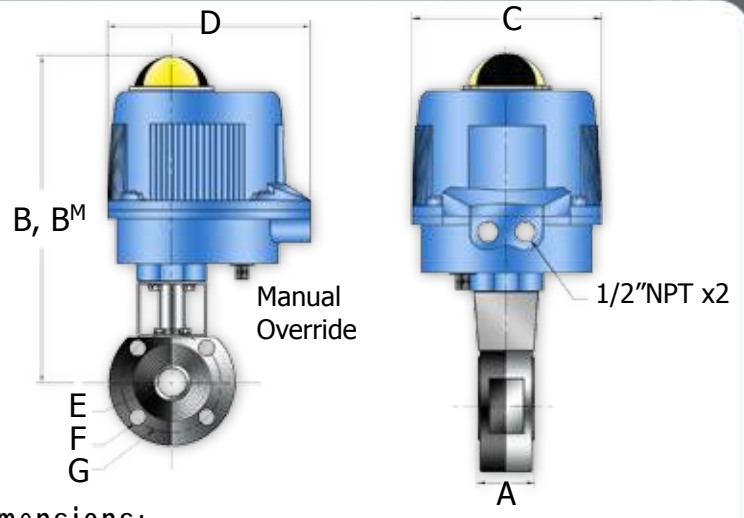


\*\*\* Option Actuator Voltage

**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC

B<sup>M</sup> = Metal Actuator Std.  
 B = Optional ABS Actuator

\* Option  
 S = Stainless  
 C = Carbon



Dimensions:

Part No.	Size	Actuator		A	B <sup>M</sup>	B	C	D	E	F	G	Bracket Kit
		Standard	Optional									
E***M/*WFF150-4	1/2"	VB015M	VB015	1.37	11.27	8.81	4.84	6.41	0.59	4x0.50	3.50	RI3780
E***M/*WFF150-6	3/4"	VB015M	VB015	1.57	11.44	8.98	4.84	6.41	0.78	4x0.50	3.88	RI3013
E***M/*WFF150-8	1"	VB030M	VB030	1.81	11.67	11.04	6.18	7.48	0.98	4x0.50	4.25	RI3001
E***M/*WFF150-10	1-1/4"	VB030M	VB030	2.12	11.91	11.28	6.18	7.48	1.26	4x0.50	4.62	RI3008
E***M/*WFF150-12	1-1/2"	VB060M	VB060	2.50	13.22	12.96	7.28	8.43	1.57	4x0.50	5.00	RI3002
E***M/*WFF150-16	2"	VB060M	VB060	3.22	12.66	12.40	7.28	8.43	1.97	4x0.63	6.00	RI3002
E***M/*WFF150-20	2-1/2"	VB110M	VB110	4.05	15.15	14.64	8.31	9.33	2.52	4x0.63	7.00	RI3003
E***M/*WFF150-24	3"	VB110M	VB110	4.80	15.45	14.94	8.31	9.33	2.99	4x0.63	7.50	RI3003
E***M/*WFF150-32	4"	VB190M	VB190	5.98	16.24	15.63	8.74	9.72	3.74	8x0.63	9.00	RI3004
E***M/*WFF150-40	5"	VB190M	VB190	7.71	17.92	17.31	8.74	9.72	4.92	8x0.75	10.00	RI3004
E***M/*WFF150-64	6"	VB350M	VB350	9.13	18.91	18.30	8.74	9.72	5.91	8x0.75	11.00	RI3006



# WFF 300 Series Pneumatic Actuated Valves



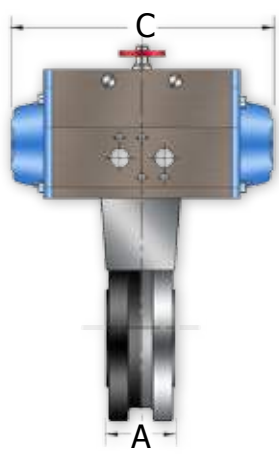
## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

- Full Port Wafer ANSI Class 300
- Class 300 29Hg - 740psi, Cold Non-Shock
- Stainless Steel Ball and Stem
- Blow-Out Proof Stem with Adjustable Stem Packing
- Temperature -4°F to 366°F
- Available with V-Ball Option C/F

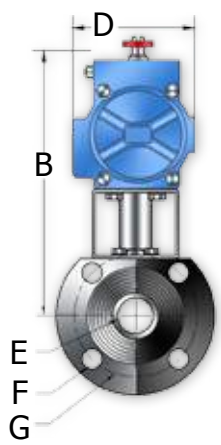


## Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	F	G	Bracket Kit
PD/*WFF300-4	1/2"	DA52	1.38	7.03	5.10	2.02	0.59	4 x 0.50	3.75	RI3780
PD/*WFF300-6	3/4"	DA63	1.57	7.94	6.61	3.29	0.78	4 x 0.63	4.62	RI3014
PD/*WFF300-8	1"	DA63	1.81	8.17	6.61	3.29	0.98	4 x 0.63	4.88	RI3007
PD/*WFF300-10	1-1/4"	DA63	2.12	8.17	6.61	3.29	1.26	4 x 0.63	5.25	RI3048
PD/*WFF300-12	1-1/2"	DA85	2.50	8.83	9.47	4.17	1.57	4 x 0.75	6.12	RI3009
PD/*WFF300-16	2"	DA100	3.22	10.90	10.83	4.84	1.97	8 x 0.63	6.50	RI3009
PD/*WFF300-20	2-1/2"	DA115	4.05	12.17	13.11	5.39	2.52	8 x 0.75	7.50	RI3010
PD/*WFF300-24	3"	DA125	4.80	14.11	14.65	5.83	2.99	8 x 0.75	8.25	RI3010
PD/*WFF300-32	4"	DA125	5.98	14.55	14.65	5.83	3.74	8 x 0.75	10.00	RI3005
PD/*WFF300-64	6"	DA160	9.13	19.13	19.69	7.32	5.91	12 x 0.75	12.50	RI3039

- \* Option  
 O = Fail open  
 C = Fail Close

- \* Option  
 S = Stainless  
 C = Carbon



## Spring Return Dimensions:

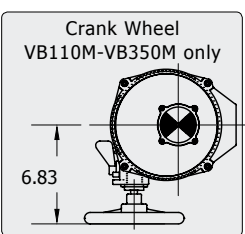
Part No.	Size	Actuator	A	B	C	D	E	F	G	Bracket Kit
P*/*WFF300-4	1/2"	SR63	1.37	7.68	6.61	3.29	0.59	4 x 0.50	3.75	RI3780
P*/*WFF300-6	3/4"	SR85	1.57	7.82	9.47	4.17	0.78	4 x 0.63	4.62	RI3014
P*/*WFF300-8	1"	SR85	1.81	8.05	9.47	4.17	0.98	4 x 0.63	4.88	RI3007
P*/*WFF300-10	1-1/4"	SR100	2.12	9.32	10.83	4.84	1.26	4 x 0.63	5.25	RI3048
P*/*WFF300-12	1-1/2"	SR100	2.50	10.10	10.83	4.84	1.57	4 x 0.75	6.12	RI3009
P*/*WFF300-16	2"	SR115	3.22	11.59	13.11	5.39	1.97	8 x 0.63	6.50	RI3009
P*/*WFF300-20	2-1/2"	SR125	4.05	12.65	14.65	5.83	2.52	8 x 0.75	7.50	RI3010
P*/*WFF300-24	3"	SR140	4.80	13.85	17.13	6.46	2.99	8 x 0.75	8.25	RI3010
P*/*WFF300-32	4"	SR160	5.98	16.20	18.03	6.86	3.74	8 x 0.75	10.00	RI3005
P*/*WFF300-64	6"	SR270	9.13	22.11	28.46	11.42	5.91	12 x 0.75	12.50	RI3039



# WFF 300 Series Electric Actuated Valves



- ## Features:
- Actuator**
- Aluminum Alloy Enclosure w/Poly Powder Coating
  - All Actuators IP67
  - Heater Thermostat Standard
  - Manual Override Standard
  - Two Auxiliary Limit Switches Standard
  - Battery Backup or 4-20mA Positioner Optional
- Valve**
- Full Port Wafer ANSI Class 300
  - Class 300 29Hg - 740psi, Cold Non-Shock
  - Stainless Steel Ball and Stem
  - Blow-Out Proof Stem with Adjustable Stem Packing
  - Temperature -4°F to 366°F
  - Available with V-Ball Option C/F

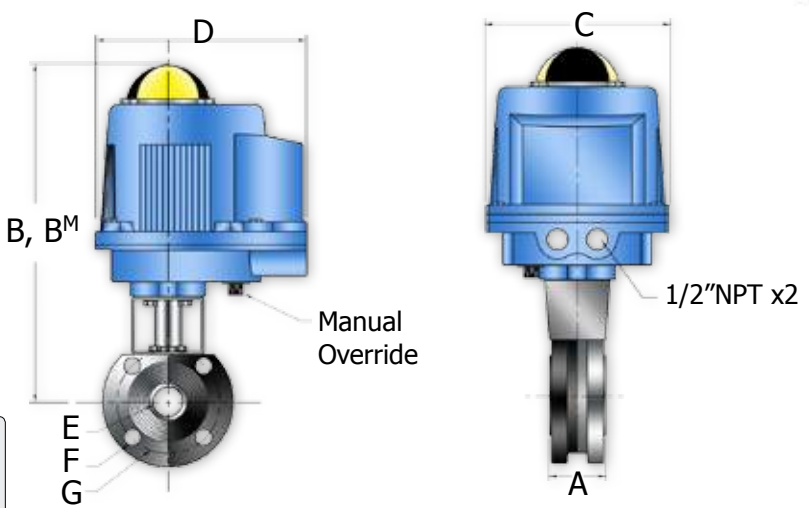


\*\*\* Option Actuator Voltage

**115V** = 115VAC  
**240V** = 240VAC  
**012D** = 12VDC  
**024D** = 24VDC

B<sup>M</sup> = Metal Actuator Std.  
 B = Optional ABS Actuator

\* Option  
 S = Stainless  
 C = Carbon

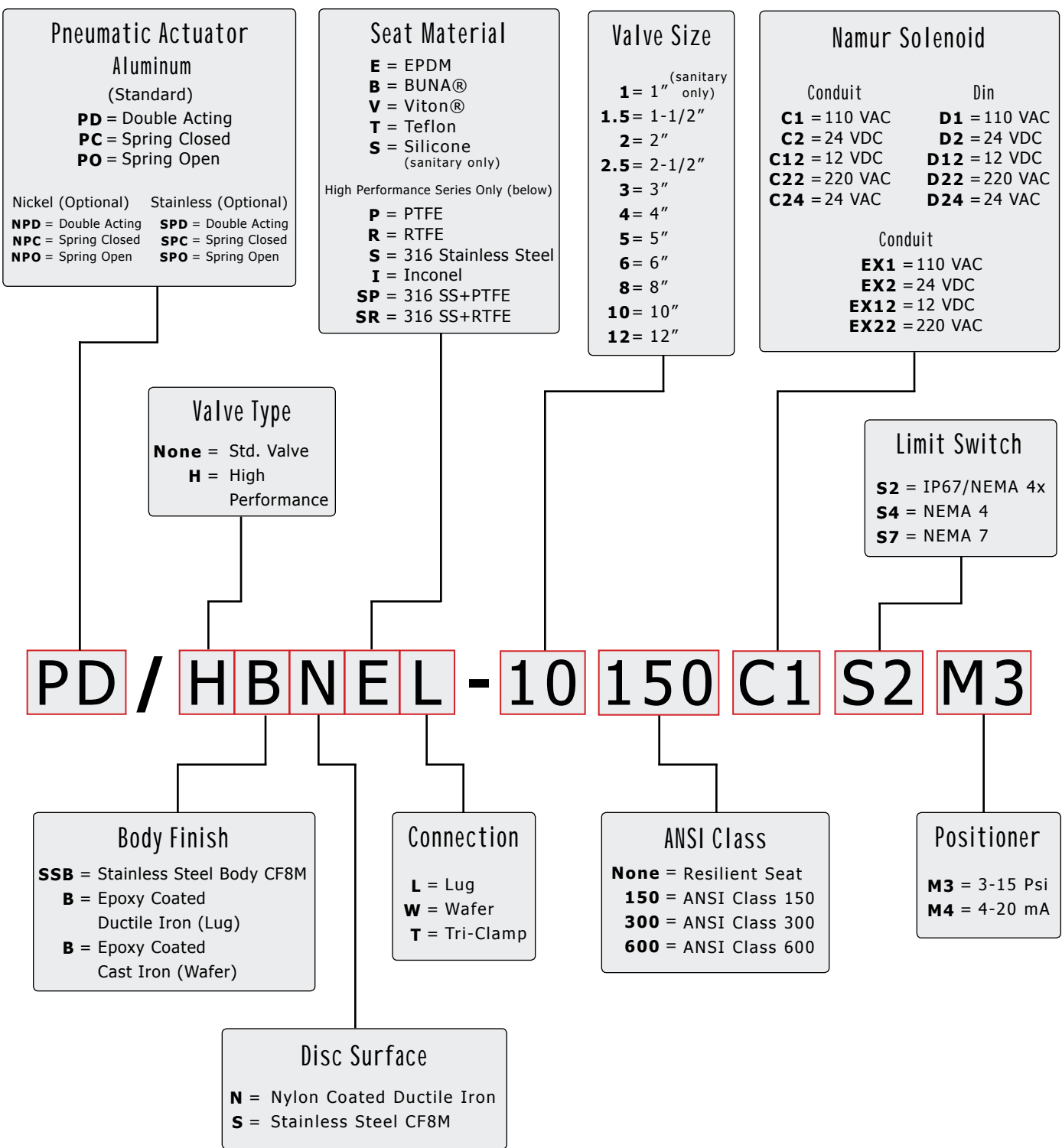


## Dimensions:

Part No.	Size	Actuator		A	B <sup>M</sup>	B	C	D	E	F	G	Bracket Kit
		Standard	Optional									
E***M/*WFF300-4	1/2"	VB030M	VB030	1.38	11.43	10.80	6.18	7.48	0.59	4x0.50	3.75	RI3780
E***M/*WFF300-6	3/4"	VB060M	VB060	1.57	12.38	12.12	7.28	8.43	0.78	4x0.63	4.62	RI3013
E***M/*WFF300-8	1"	VB060M	VB060	1.81	12.60	12.34	7.28	8.43	0.98	4x0.63	4.88	RI3001
E***M/*WFF300-10	1-1/4"	VB060M	VB060	2.12	12.60	12.34	7.28	8.43	1.26	4x0.63	5.25	RI3008
E***M/*WFF300-12	1-1/2"	VB110M	VB110	2.50	14.32	13.81	8.31	9.33	1.57	4x0.75	6.12	RI3002
E***M/*WFF300-16	2"	VB110M	VB110	3.22	14.85	14.34	8.31	9.33	1.97	8x0.63	6.50	RI3002
E***M/*WFF300-20	2-1/2"	VB270M	VB270	4.05	15.43	14.82	8.74	9.72	2.52	8x0.75	7.50	RI3003
E***M/*WFF300-24	3"	VB270M	VB270	4.80	15.90	15.29	8.74	9.72	2.99	8x0.75	8.25	RI3003
E***M/*WFF300-32	4"	VB350M	VB350	5.98	17.46	16.85	8.74	9.72	3.74	8x0.75	10.00	RI3004

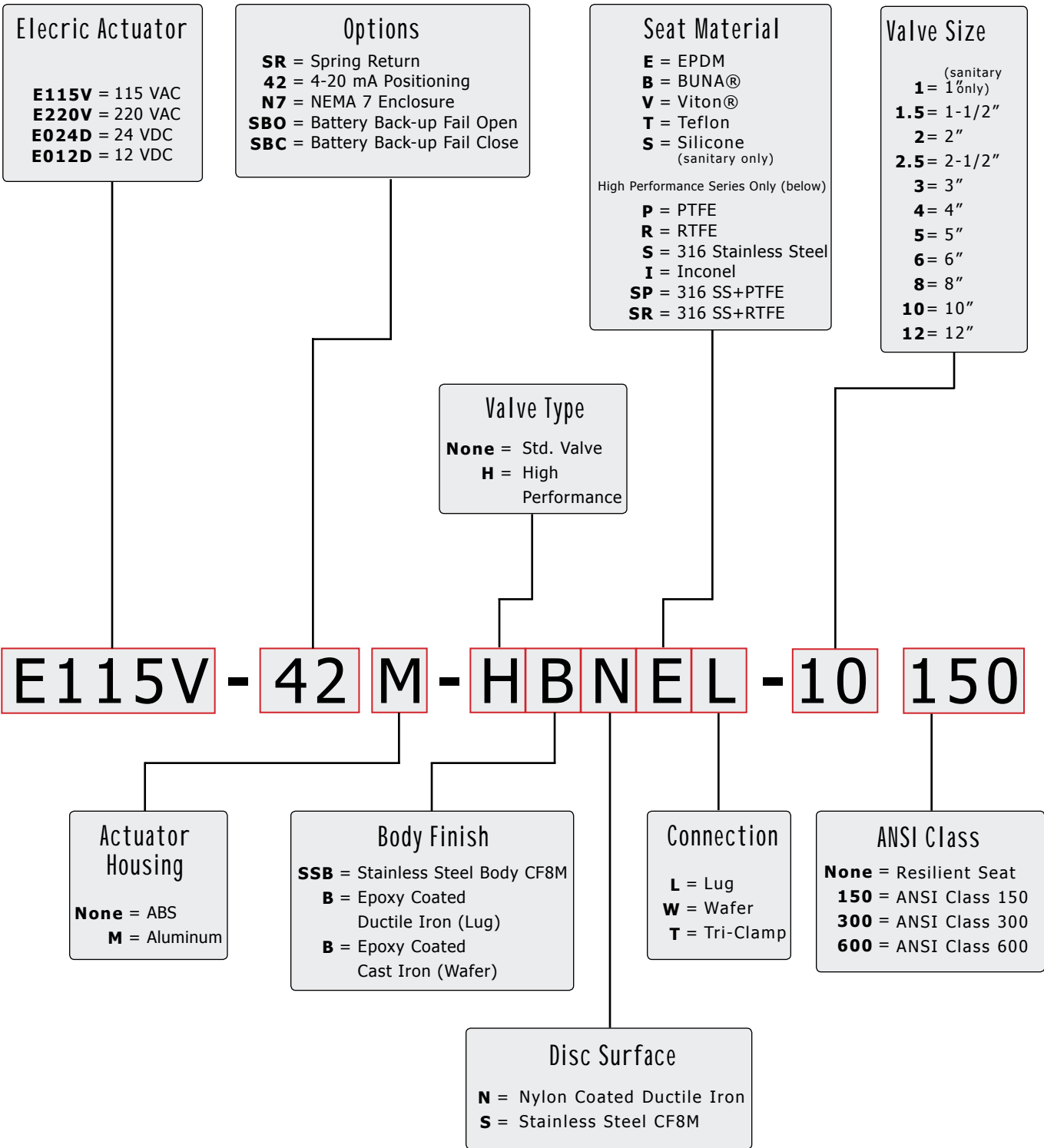


# Pneumatic Actuated Butterfly Valve Ordering Matrix





# Electric Actuated Butterfly Valve Ordering Matrix





# RS Butterfly Series Pneumatic Actuated Valves



Lug

Wafer

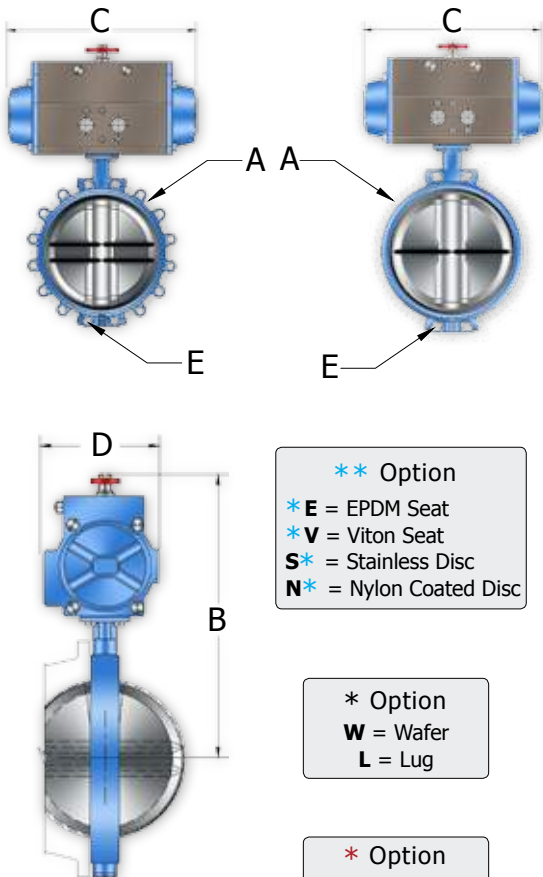
## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

- ANSI 125 & ANSI 150 CLASS
- ISO 5211 Mounting Pad
- Epoxy Coated Cast Iron Body
- EPDM Resilient Seat (Standard)
- API609 Face to Face Flange
- Temperature -30°F to 250°F



- \*\* Option
- \* E = EPDM Seat
- \* V = Viton Seat
- S\* = Stainless Disc
- N\* = Nylon Coated Disc

- \* Option
- W = Wafer
- L = Lug

- \* Option
- O = Fail open
- C = Fail Close

## Double Acting Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	
							Lug	Wafer
PD/B***-1.5	1-1/2"	DA52	3.88	8.63	5.88	2.82	4x5/8-11	4 x 0.75
PD/B***-2	2"	DA52	4.75	9.13	5.88	2.82	4x5/8-11	4 x 0.75
PD/B***-2.5	2-1/2"	DA52	5.50	9.61	5.88	2.82	4x5/8-11	4 x 0.75
PD/B***-3	3"	DA 63	6.00	10.54	6.61	3.29	4x5/8-11	4 x 0.75
PD/B***-4	4"	DA75	7.50	12.24	8.27	3.72	8x3/4-10	4 x 0.75
PD/B***-5	5"	DA75	8.50	12.71	8.27	3.72	8x3/4-10	4 x 0.87
PD/B***-6	6"	DA85	9.50	15.12	9.47	4.17	8x3/4-10	4 x 0.87
PD/B***-8	8"	DA100	11.75	17.63	10.83	4.84	8x3/4-10	4 x 0.87
PD/B***-10	10"	DA125	14.25	19.55	14.65	5.83	12x7/8-9	4 x 1.00
PD/B***-12	12"	DA140	17.00	22.21	17.13	6.46	12x7/8-9	4 x 1.00

## Spring Return Dimensions:

Part No.	Size	Actuator	A	B	C	D	E	
							Lug	Wafer
P*/B***-1.5	1-1/2"	SR75	3.88	10.46	7.32	3.73	4x5/8-11	4 x 0.75
P*/B***-2	2"	SR75	4.75	11.09	7.32	3.73	4x5/8-11	4 x 0.75
P*/B***-2.5	2-1/2"	SR75	5.50	12.05	8.27	3.72	4x5/8-11	4 x 0.75
P*/B***-3	3"	SR85	6.00	12.84	9.47	4.17	4x5/8-11	4 x 0.75
P*/B***-4	4"	SR100	7.50	14.08	10.83	4.84	8x3/4-10	4 x 0.75
P*/B***-5	5"	SR115	8.50	15.91	13.11	5.39	8x3/4-10	4 x 0.87
P*/B***-6	6"	SR125	9.50	17.84	14.65	5.83	8x3/4-10	4 x 0.87
P*/B***-8	8"	SR160	11.75	20.12	19.69	7.32	8x3/4-10	4 x 0.87
P*/B***-10	10"	SR200	14.25	23.63	22.76	8.54	12x7/8-9	4 x 1.00
P*/B***-12	12"	C/F	17.00	C/F	C/F	C/F	12x7/8-9	4 x 1.00





# RS Butterfly Series Electric Actuated Valves



Lug

Wafer

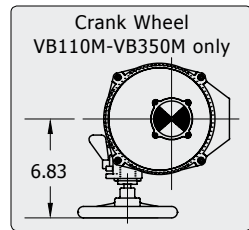
## Actuator

- Aluminum Alloy Enclosure w/Poly Powder Coating
- All Actuators IP67
- Heater Thermostat Standard
- Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

## Valve

- ANSI 125 & ANSI 150 CLASS
- ISO 5211 Mounting Pad
- Epoxy Coated Cast Iron Body
- EPDM Resilient Seat (Standard)
- API609 Face to Face Flange
- Temperature -30°F to 250°F

## Features:



\*\*\* Option  
Actuator Voltage

**115V** = 115VAC

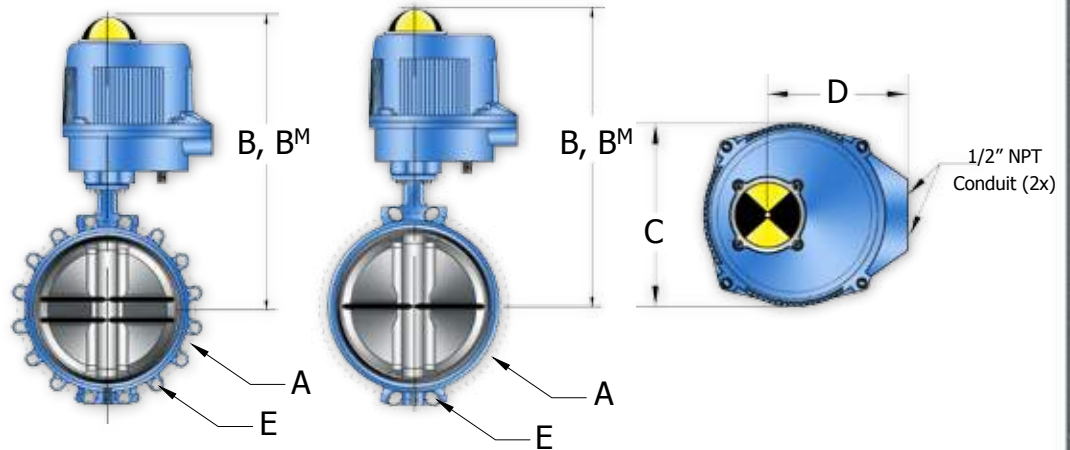
**240V** = 240VAC

**012D** = 12VDC

**024D** = 24VDC

**B<sup>M</sup>** = Metal Actuator Std.

**B** = Optional ABS Actuator



## Dimensions:

Part No.	Size	Actuator		A	B <sup>M</sup>	B	C	D	E	
		Standard	Optional						Lug	Wafer
E***M/B***-1.5	1-1/2"	VB030M	VB030	3.88	13.74	14.37	7.34	6.33	4x5/8-11	4 x 0.75
E***M/B***-2	2"	VB030M	VB030	4.75	14.37	15.00	7.34	6.33	4x5/8-11	4 x 0.75
E***M/B***-2.5	2-1/2"	VB030M	VB030	5.50	14.92	15.55	7.34	6.33	4x5/8-11	4 x 0.75
E***M/B***-3	3"	VB030M	VB030	6.00	15.16	15.79	7.34	6.33	4x5/8-11	4 x 0.75
E***M/B***-4	4"	VB060M	VB060	7.50	16.59	16.85	7.82	6.94	8x3/4-11	4 x 0.75
E***M/B***-5	5"	VB110M	VB110	8.50	17.99	18.55	10.68	4.00	8x3/4-10	4 x 0.87
E***M/B***-6	6"	VB190M	VB190	9.50	18.55	19.06	10.68	4.00	8x3/4-10	4 x 0.87
E***M/B***-8	8"	VB270M	VB270	11.75	20.04	20.65	10.89	10.08	8x3/4-10	4 x 0.87
E***M/B***-10	10"	VB350M	VB350	14.25	21.30	21.91	10.89	10.08	12x7/8-9	4 x 1.00
E***M/B***-12	12"	VB350M	VB350	17.00	C/F	C/F	C/F	C/F	12x7/8-9	4 x 1.00

\*\* Option

\***E** = EPDM Seat

\***V** = Viton Seat

\***S** = Stainless Disc

\***N** = Nylon Coated Disc

\* Option

\***W** = Wafer

\***L** = Lug



# HBCL & HBSL 150 Series Pneumatic Actuated Valves

## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

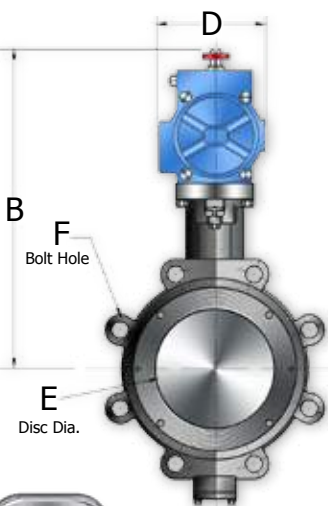
- ANSI Class 150
- ISO 5211 Mounting Pad
- V-Ring Stem Packing with Easy Access Adjustment
- Cast Disc Stop to Prevent Seat Damage
- RPTFE/SS Self Lubricating Stem Bearing on Top and Bottom
- Compatible with both Standard and Spiral Wound Gasket Design
- All Valves are Leak tested per API 598, and Tagged per MSS-SP25 & API 609B
- Fire Safe Available C/F



## 150 Class Lug Double Acting Dimensions:

Part No.	Size	Actuator		A		B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All	
PD/HB*L150-2	2"	DA63	DA75	1.69	9.87	9.96	6.61	7.32	3.29	3.73	1.93	5/8-11x4	
PD/HB*L150-2.5	2-1/2"	DA75	DA85	1.81	10.79	11.34	7.32	9.47	3.73	4.17	2.44	5/8-11x4	
PD/HB*L150-3	3"	DA75	DA100	1.89	11.18	12.34	7.32	10.83	3.73	4.84	2.87	5/8-11x4	
PD/HB*L150-4	4"	DA75	DA100	2.13	11.97	13.03	7.32	10.83	3.73	4.84	3.74	5/8-11x8	
PD/HB*L150-5	5"	DA100	DA115	2.20	13.54	14.50	10.83	13.11	4.84	5.39	4.72	3/4-10x8	
PD/HB*L150-6	6"	DA100	DA125	2.24	14.84	16.28	10.83	14.65	4.84	5.83	5.55	3/4-10x8	
PD/HB*L150-8	8"	DA115	DA140	2.52	17.89	18.78	13.11	17.13	5.39	6.46	7.64	3/4-10x8	
PD/HB*L150-10	10"	DA125	DA160	2.83	19.88	20.82	14.63	19.69	5.83	7.32	9.41	7/8-9x12	
PD/HB*L150-12	12"	DA140	DA180	3.19	21.50	23.70	17.13	19.41	6.46	8.38	11.30	7/8-9x12	
PD/HB*L150-14	14"	DA160	DA200	3.62	23.82	26.49	19.69	22.76	7.32	8.54	13.03	1.0-8x12	
PD/HB*L150-16	16"	DA180	DA230	4.02	27.48	30.32	19.41	27.17	8.38	9.78	15.08	1.0-8x16	
PD/HB*L150-18	18"	DA200	DA230	4.49	29.44	31.32	22.76	27.17	8.54	9.78	17.09	1 1/8-8x16	
PD/HB*L150-20	20"	DA230	DA270	5.00	33.07	35.98	27.17	28.46	9.78	11.42	18.98	1 1/8-8x20	
PD/HB*L150-24	24"	DA270	DA330	6.06	38.54	44.63	28.46	34.69	11.42	15.83	22.83	1 1/8-8x20	

\* Option    S = Stainless  
                  C = Carbon



## 150 Class Lug Spring Return Dimensions:

Part No.	Size	Actuator		A		B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All	
PS/HB*L150-2	2"	SR100	SR115	1.65	11.02	11.98	10.83	7.32	4.84	5.39	1.93	5/8-11x4	
PS/HB*L150-2.5	2-1/2"	SR115	SR140	1.81	12.81	14.18	13.11	9.47	5.39	6.46	2.44	5/8-11x4	
PS/HB*L150-3	3"	SR115	SR140	1.89	13.20	14.57	13.11	10.83	5.39	6.46	2.87	5/8-11x4	
PS/HB*L150-4	4"	SR115	SR160	2.13	13.99	16.53	13.11	10.83	5.39	7.32	3.74	5/8-11x8	
PS/HB*L150-5	5"	SR140	SR180	2.20	15.87	18.30	17.13	13.11	6.46	8.38	4.72	3/4-10x8	
PS/HB*L150-6	6"	SR160	SR200	2.24	18.11	20.58	19.69	14.65	7.32	8.54	5.55	3/4-10x8	
PS/HB*L150-8	8"	SR180	SR230	2.52	20.98	23.82	19.41	17.13	8.38	9.78	7.64	3/4-10x8	
PS/HB*L150-10	10"	SR200	SR230	2.83	23.06	24.92	22.76	19.69	8.54	9.78	9.41	7/8-9x12	
PS/HB*L150-12	12"	SR230	SR270	3.19	26.50	29.45	27.17	19.41	9.78	11.42	11.30	7/8-9x12	
PS/HB*L150-14	14"	SR270	N/A	3.62	31.26	26.49	28.46	22.76	11.42	N/A	13.03	1.0-8x12	
PS/HB*L150-16	16"	SR270	N/A	4.02	33.22	30.32	28.46	27.17	11.42	N/A	15.08	1.0-8x16	



# HBCL & HBSL 300 Series Pneumatic Actuated Valves



## Features:

### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

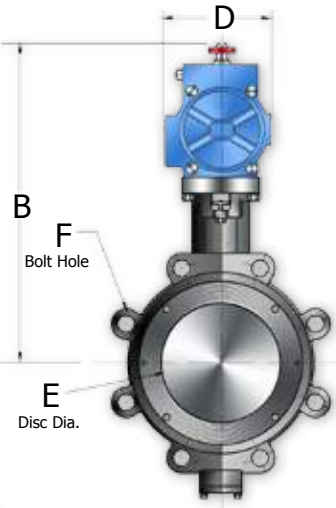
- ANSI Class 300
- ISO 5211 Mounting Pad
- V-Ring Stem Packing with Easy Access Adjustment
- Cast Disc Stop to Prevent Seat Damage
- RPTFE/SS Self Lubricating Stem Bearing on Top and Bottom
- Compatible with both Standard and Spiral Wound Gasket Design
- All Valves are Leak tested per API 598, and Tagged per MSS-SP25 & API 609B
- Fire Safe Available C/F



## 300 Class Lug Double Acting Dimensions:

Part No.	Size	Actuator		A		B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All	
PD/HB*L300-2	2"	DA75	DA85	1.69	9.87	10.84	8.27	9.47	3.72	4.17	1.93	5/8-11x8	
PD/HB*L300-2.5	2-1/2"	DA75	DA100	1.81	10.79	11.88	8.27	10.83	3.72	4.84	2.44	3/4-10x8	
PD/HB*L300-3	3"	DA85	DA100	1.89	11.76	12.47	9.47	10.83	4.17	4.84	2.87	5/8-11x8	
PD/HB*L300-4	4"	DA85	DA115	2.13	12.75	14.22	7.32	13.11	3.73	5.39	3.74	5/8-11x8	
PD/HB*L300-5	5"	DA100	DA125	2.20	13.54	15.21	10.83	14.65	4.84	5.83	4.72	3/4-10x8	
PD/HB*L300-6	6"	DA115	DA125	2.24	16.23	16.91	13.11	14.65	5.39	5.83	5.55	3/4-10x12	
PD/HB*L300-8	8"	DA125	DA160	2.52	18.43	20.31	14.63	19.69	5.83	7.32	7.64	7/8-9x12	
PD/HB*L300-10	10"	DA140	DA180	2.83	19.88	23.22	17.13	19.41	6.46	8.38	9.41	1.0-8x16	
PD/HB*L300-12	12"	DA160	DA180	3.19	23.97	25.23	19.69	22.76	7.32	8.38	11.30	1 1/8-8x16	
PD/HB*L300-14	14"	DA180	DA230	3.62	26.49	29.33	19.69	27.17	8.38	9.78	13.03	1 1/8-8x20	
PD/HB*L300-16	16"	DA230	DA270	4.02	31.10	34.01	27.17	28.46	9.78	11.42	15.08	1.0-8x20	
PD/HB*L300-18	18"	DA230	DA270	4.49	32.87	35.78	22.76	28.46	8.54	11.42	17.09	1 1/8-8x24	
PD/HB*L300-20	20"	DA270	N/A	5.00	37.95	N/A	28.46	N/A	11.42	N/A	18.98	1 1/8-8x24	

\* Option    S = Stainless  
                  C = Carbon



## 300 Class Lug Spring Return Dimensions:

Part No.	Size	Actuator		A		B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All	
PS/HB*L300-2	2"	SR115	SR140	1.69	12.01	13.38	13.11	17.13	5.39	6.46	1.93	5/8-11x4	
PS/HB*L300-2.5	2-1/2"	SR115	SR160	1.81	12.81	15.15	13.11	19.69	5.39	7.32	2.44	5/8-11x4	
PS/HB*L300-3	3"	SR115	SR160	1.89	13.20	15.54	13.11	19.69	5.39	7.32	2.87	5/8-11x4	
PS/HB*L300-4	4"	SR140	SR180	2.13	15.39	17.59	17.13	19.41	6.46	8.38	3.74	5/8-11x8	
PS/HB*L300-5	5"	SR160	SR200	2.20	16.84	19.28	19.69	22.76	7.32	8.54	4.72	3/4-10x8	
PS/HB*L300-6	6"	SR160	SR200	2.24	18.11	20.58	19.69	14.65	7.32	8.54	5.55	3/4-10x8	
PS/HB*L300-8	8"	SR200	SR230	2.52	22.55	23.82	22.76	17.13	8.54	9.78	7.64	3/4-10x8	
PS/HB*L300-10	10"	SR230	SR270	2.83	26.06	28.97	27.17	28.46	9.78	11.42	9.41	7/8-9x12	
PS/HB*L300-12	12"	SR270	SR270	3.19	30.98	30.98	28.46	28.46	11.42	11.42	11.30	7/8-9x12	
PS/HB*L300-14	14"	SR270	N/A	3.62	32.24	N/A	28.46	N/A	11.42	N/A	13.03	1.0-8x12	



# HBCL & HBSL 150/300 Series Electric Actuated Valves

## Features:

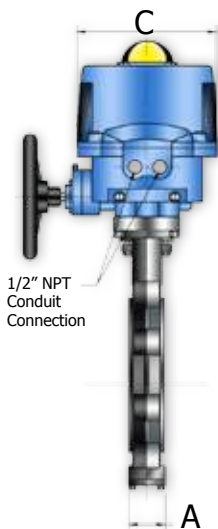


### Actuator

- Aluminum Alloy Enclosure w/Poly Powder Coating
- All Actuators IP67
- Heater Thermostat Standard
- Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

### Valve

- ANSI Class 150/300
- ISO 5211 Mounting Pad
- V-Ring Stem Packing with Easy Access Adjustment
- Cast Disc Stop to Prevent Seat Damage
- RPTFE/SS Self Lubricating Stem Bearing on Top and Bottom
- Compatible with both Standard and Spiral Wound Gasket Design
- All Valves are Leak tested per API 598, and Tagged per MSS-SP25 & API 609B
- Fire Safe Available C/F



## 150 Class Lug Dimensions:

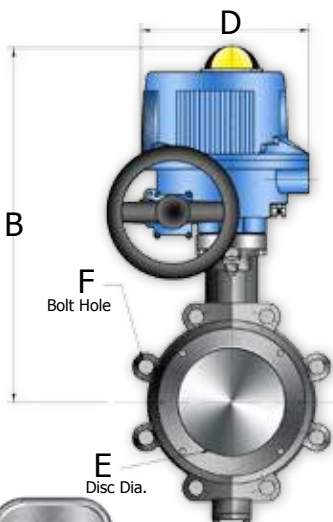
Part No.	Size	Actuator		A		B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All	
E***M/HB*L150-2	2"	VB060M	VB110M	1.69	14.34	15.27	6.94	10.68	7.82	9.71	1.93	5/8-11x4	
E***M/HB*L150-2.5	2-1/2"	VB060M	VB110M	1.81	15.17	16.10	6.94	10.68	7.82	9.71	2.44	5/8-11x4	
E***M/HB*L150-3	3"	VB060M	VB190M	1.89	15.56	16.49	6.94	10.68	7.82	9.71	2.87	5/8-11x4	
E***M/HB*L150-4	4"	VB110M	VB190M	2.13	17.48	17.28	10.68	10.68	9.71	9.71	3.74	5/8-11x8	
E***M/HB*L150-5	5"	VB190M	VB270M	2.20	17.99	17.94	10.68	10.89	9.71	10.08	4.72	3/4-10x8	
E***M/HB*L150-6	6"	VB190M	VB270M	2.24	19.29	19.44	10.68	10.89	9.71	10.08	5.55	3/4-10x8	
E***M/HB*L150-8	8"	VB190M	N/A	2.52	20.67	N/A	10.68	N/A	9.71	N/A	7.64	3/4-10x8	
E***M/HB*L150-10	10"	VB350M	N/A	2.83	11.14	N/A	10.89	N/A	10.08	N/A	9.41	7/8-9x12	

\* Option    **S** = Stainless  
                   **C** = Carbon

**\*\*\* Actuator Voltage**  
**115V** = 115VAC    **012D** = 12VDC  
**240V** = 240VAC    **024D** = 24VDC

## 300 Class Lug Dimensions:

Part No.	Size	Actuator		A		B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All	
E***M/HB*L300-2	2"	VB060M	VB110M	1.69	14.34	15.27	6.94	10.68	7.82	9.71	1.93	5/8-11x8	
E***M/HB*L300-2.5	2-1/2"	VB110M	VB190M	1.81	16.10	16.10	6.94	10.68	9.71	9.71	2.44	3/4-10x8	
E***M/HB*L300-3	3"	VB110M	VB190M	1.89	16.49	16.49	6.94	10.68	9.71	9.71	2.87	5/8-11x8	
E***M/HB*L300-4	4"	VB110M	VB270M	2.13	17.48	17.83	10.68	10.68	9.71	9.71	3.74	5/8-11x8	
E***M/HB*L300-5	5"	VB190M	N/A	2.20	17.99	N/A	10.68	N/A	9.71	N/A	4.72	3/4-10x8	
E***M/HB*L300-6	6"	VB190M	N/A	2.32	19.29	N/A	10.68	N/A	9.71	N/A	5.55	3/4-10x12	
E***M/HB*L300-8	8"	VB350M	N/A	2.87	21.41	N/A	10.68	N/A	9.71	N/A	7.64	7/8-9x12	



# HBCW & HBSW 150/300 Series Electric Actuated Valves



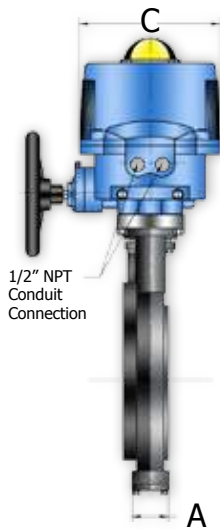
## Features:

### Actuator

- Aluminum Alloy Enclosure w/Poly Powder Coating
- All Actuators IP67
- Heater Thermostat Standard
- Manual Override Standard
- Two Auxiliary Limit Switches Standard
- Battery Backup or 4-20mA Positioner Optional

### Valve

- ANSI Class 150/300
- ISO 5211 Mounting Pad
- V-Ring Stem Packing with Easy Access Adjustment
- Cast Disc Stop to Prevent Seat Damage
- RPTFE/SS Self Lubricating Stem Bearing on Top and Bottom
- Compatible with both Standard and Spiral Wound Gasket Design
- All Valves are Leak tested per API 598, and Tagged per MSS-SP25 & API 609B
- Fire Safe Available C/F



## 150 Class Wafer Dimensions:

Part No.	Size	Actuator		A			B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	Soft	Metal	All	All
E***M/HB*W150-2	2"	VB060M	VB110M	1.69	14.34	15.27	6.94	10.68	7.82	9.71	1.93	0.79x2		
E***M/HB*W150-2.5	2-1/2"	VB060M	VB110M	1.81	15.17	16.10	6.94	10.68	7.82	9.71	2.44	0.79x2		
E***M/HB*W150-3	3"	VB060M	VB190M	1.89	15.56	16.49	6.94	10.68	7.82	9.71	2.87	0.79x2		
E***M/HB*W150-4	4"	VB110M	VB190M	2.13	17.48	17.28	10.68	10.68	9.71	9.71	3.74	0.79x2		
E***M/HB*W150-5	5"	VB190M	VB270M	2.20	17.99	17.94	10.68	10.89	9.71	10.08	4.72	0.91x2		
E***M/HB*W150-6	6"	VB190M	VB270M	2.24	19.29	19.44	10.68	10.89	9.71	10.08	5.55	0.91x2		
E***M/HB*W150-8	8"	VB190M	N/A	2.52	20.67	N/A	10.68	N/A	9.71	N/A	7.64	0.91x2		
E***M/HB*W150-10	10"	VB350M	N/A	2.83	11.14	N/A	10.89	N/A	10.08	N/A	9.41	1.02x4		

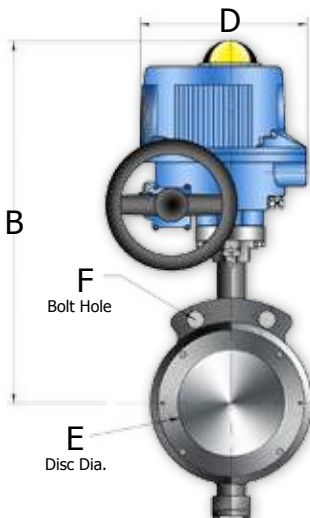
\* Option    S = Stainless  
                  C = Carbon

### \*\*\* Actuator Voltage

**115V** = 115VAC    **012D** = 12VDC  
**240V** = 240VAC    **024D** = 24VDC

## 300 Class Wafer Dimensions:

Part No.	Size	Actuator		A			B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	Soft	Metal	All	All
E***M/HB*W300-2	2"	VB060M	VB110M	1.69	14.34	15.27	6.94	10.68	7.82	9.71	1.93	0.79x2		
E***M/HB*W300-2.5	2-1/2"	VB110M	VB190M	1.81	16.10	16.10	6.94	10.68	9.71	9.71	2.44	0.91x2		
E***M/HB*W300-3	3"	VB110M	VB190M	1.89	16.49	16.49	6.94	10.68	9.71	9.71	2.87	0.91x2		
E***M/HB*W300-4	4"	VB110M	VB270M	2.13	17.48	17.83	10.68	10.68	9.71	9.71	3.74	0.91x2		
E***M/HB*W300-5	5"	VB190M	N/A	2.20	17.99	N/A	10.68	N/A	9.71	N/A	4.72	0.91x2		
E***M/HB*W300-6	6"	VB190M	N/A	2.32	19.29	N/A	10.68	N/A	9.71	N/A	5.55	0.91x2		
E***M/HB*W300-8	8"	VB350M	N/A	2.87	21.41	N/A	10.68	N/A	9.71	N/A	7.64	1.02x2		





# HBCW & HBSW 150 Series Pneumatic Actuated Valves

## Features:



### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

- ANSI Class 150
- ISO 5211 Mounting Pad
- V-Ring Stem Packing with Easy Access Adjustment
- Cast Disc Stop to Prevent Seat Damage
- RPTFE/SS Self Lubricating Stem Bearing on Top and Bottom
- Compatible with both Standard and Spiral Wound Gasket Design
- All Valves are Leak tested per API 598, and Tagged per MSS-SP25 & API 609B
- Fire Safe Available C/F

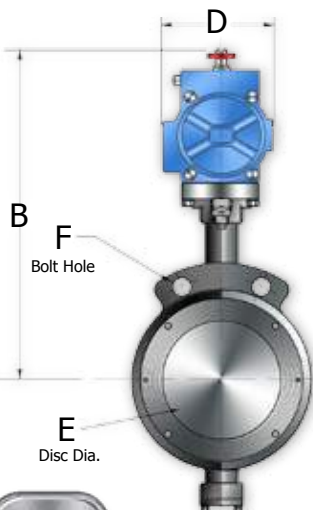
## 150 Class Wafer Double Acting Dimensions:



Part No.	Size	Actuator			A		B		C		D		E		F	
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All				
PD/HB*W150-2	2"	DA63	DA75	1.69	9.87	9.96	6.61	7.32	3.29	3.73	1.93	0.79x2				
PD/HB*W150-2.5	2-1/2"	DA75	DA85	1.81	10.79	11.34	7.32	9.47	3.73	4.17	2.44	0.79x2				
PD/HB*W150-3	3"	DA75	DA100	1.89	11.18	12.34	7.32	10.83	3.73	4.84	2.87	0.79x2				
PD/HB*W150-4	4"	DA75	DA100	2.13	11.97	13.03	7.32	10.83	3.73	4.84	3.74	0.79x2				
PD/HB*W150-5	5"	DA100	DA115	2.20	13.54	14.50	10.83	13.11	4.84	5.39	4.72	0.91x2				
PD/HB*W150-6	6"	DA100	DA125	2.24	14.84	16.28	10.83	14.65	4.84	5.83	5.55	0.91x2				
PD/HB*W150-8	8"	DA115	DA140	2.52	17.89	18.78	13.11	17.13	5.39	6.46	7.64	0.91x2				
PD/HB*W150-10	10"	DA125	DA160	2.83	19.88	20.82	14.63	19.69	5.83	7.32	9.41	1.02x4				
PD/HB*W150-12	12"	DA140	DA180	3.19	21.50	23.70	17.13	19.41	6.46	8.38	11.30	1.02x4				
PD/HB*W150-14	14"	DA160	DA200	3.62	23.82	26.49	19.69	22.76	7.32	8.54	13.03	1.14x4				
PD/HB*W150-16	16"	DA180	DA230	4.02	27.48	30.32	19.41	27.17	8.38	9.78	15.08	1.14x4				
PD/HB*W150-18	18"	DA200	DA230	4.49	29.44	31.32	22.76	27.17	8.54	9.78	17.09	1 1/8-8x4				
PD/HB*W150-20	20"	DA230	DA270	5.00	33.07	35.98	27.17	28.46	9.78	11.42	18.98	1 1/8-8x4				
PD/HB*W150-24	24"	DA270	DA330	6.06	38.54	44.63	28.46	34.69	11.42	15.83	22.83	1 1/8-8x6				

\* Option    **S** = Stainless  
                  **C** = Carbon

## 150 Class Wafer Spring Return Dimensions:



Part No.	Size	Actuator		A		B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All	
PS/HB*W150-2	2"	SR100	SR115	1.69	11.02	11.98	10.83	7.32	4.84	5.39	1.93	0.79x2	
PS/HB*W150-2.5	2-1/2"	SR115	SR140	1.81	12.81	14.18	13.11	9.47	5.39	6.46	2.44	0.79x2	
PS/HB*W150-3	3"	SR115	SR140	1.89	13.20	14.57	13.11	10.83	5.39	6.46	2.87	0.79x2	
PS/HB*W150-4	4"	SR115	SR160	2.13	13.99	16.53	13.11	10.83	5.39	7.32	3.74	0.79x2	
PS/HB*W150-5	5"	SR140	SR180	2.20	15.87	18.30	17.13	13.11	6.46	8.38	4.72	0.91x2	
PS/HB*W150-6	6"	SR160	SR200	2.24	18.11	20.58	19.69	14.65	7.32	8.54	5.55	0.91x2	
PS/HB*W150-8	8"	SR180	SR230	2.52	20.98	23.82	19.41	17.13	8.38	9.78	7.64	0.91x2	
PS/HB*W150-10	10"	SR200	SR230	2.83	23.06	24.92	22.76	19.69	8.54	9.78	9.41	1.02x4	
PS/HB*W150-12	12"	SR230	SR270	3.19	26.50	29.45	27.17	19.41	9.78	11.42	11.30	1.02x4	
PS/HB*W150-14	14"	SR270	N/A	3.62	31.26	26.49	28.46	22.76	11.42	N/A	13.03	1.14x4	
PS/HB*W150-16	16"	SR270	N/A	4.02	33.22	30.32	28.46	27.17	11.42	N/A	15.08	1.14x4	

# HBCW & HBSW 300 Series Pneumatic Actuated Valves



## Features:



### Actuator

- 80 PSI Minimum, 120 PSI Max.
- Aluminum Construction
- Nitril Seals, Polyamide Friction Guides
- -4°F to 185°F

### Valve

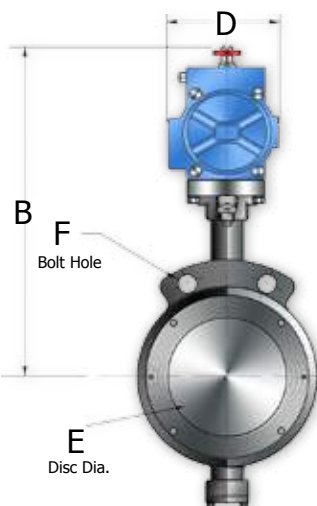
- ANSI Class 300
- ISO 5211 Mounting Pad
- V-Ring Stem Packing with Easy Access Adjustment
- Cast Disc Stop to Prevent Seat Damage
- RPTFE/SS Self Lubricating Stem Bearing on Top and Bottom
- Compatible with both Standard and Spiral Wound Gasket Design
- All Valves are Leak tested per API 598, and Tagged per MSS-SP25 & API 609B
- Fire Safe Available C/F



## 300 Class Wafer Double Acting Dimensions:

Part No.	Size	Actuator		A		B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All	
PD/HB*W300-2	2"	DA75	DA85	1.69	9.87	10.84	8.27	9.47	3.72	4.17	1.93	0.79x2	
PD/HB*W300-2.5	2-1/2"	DA75	DA100	1.81	10.79	11.88	8.27	10.83	3.72	4.84	2.44	0.79x2	
PD/HB*W300-3	3"	DA85	DA100	1.89	11.76	12.47	9.47	10.83	4.17	4.84	2.87	0.79x2	
PD/HB*W300-4	4"	DA85	DA115	2.13	12.75	14.22	7.32	13.11	3.73	5.39	3.74	0.79x2	
PD/HB*W300-5	5"	DA100	DA125	2.20	13.54	15.21	10.83	14.65	4.84	5.83	4.72	0.79x2	
PD/HB*W300-6	6"	DA115	DA125	2.24	16.23	16.91	13.11	14.65	5.39	5.83	5.55	0.79x2	
PD/HB*W300-8	8"	DA125	DA160	2.52	18.43	20.31	14.63	10.69	5.83	7.32	7.64	0.79x2	
PD/HB*W300-10	10"	DA140	DA180	2.83	19.88	23.22	17.13	19.41	6.46	8.38	9.41	1 1/4-8x4	
PD/HB*W300-12	12"	DA160	DA180	3.19	23.97	25.23	19.69	22.76	7.32	8.38	11.30	1-8x4	
PD/HB*W300-14	14"	DA180	DA230	3.62	26.49	29.33	19.69	27.17	8.38	9.78	13.03	1 1/8-8x4	
PD/HB*W300-16	16"	DA230	DA270	4.02	31.10	34.01	27.17	28.46	9.78	11.42	15.08	1-8x4	
PD/HB*W300-18	18"	DA230	DA270	4.49	32.87	35.78	22.76	28.46	8.54	11.42	17.09	1 1/8-8x4	
PD/HB*W300-20	20"	DA270	N/A	5.00	37.95	N/A	28.46	N/A	N/A	N/A	18.98	1 1/8-8x4	

\* Option    S = Stainless  
                  C = Carbon



## 300 Class Wafer Spring Return Dimensions:

Part No.	Size	Actuator		A		B		C		D		E	F
		Soft Seat	Metal Seat	All	Soft	Metal	Soft	Metal	Soft	Metal	All	All	
PS/HB*W300-2	2"	SR115	SR140	1.69	12.01	13.38	13.11	17.13	5.39	6.46	1.93	0.79x2	
PS/HB*W300-2.5	2-1/2"	SR115	SR160	1.81	12.81	15.15	13.11	19.69	5.39	7.32	2.44	0.79x2	
PS/HB*W300-3	3"	SR115	SR180	1.89	13.20	15.54	13.11	19.69	5.39	7.32	2.87	0.79x2	
PS/HB*W300-4	4"	SR140	SR200	2.13	15.39	17.59	17.13	19.41	6.46	8.38	3.74	0.79x2	
PS/HB*W300-5	5"	SR160	SR200	2.20	16.84	19.28	19.69	22.76	7.32	8.54	4.72	0.79x2	
PS/HB*W300-6	6"	SR160	SR230	2.24	18.11	20.58	19.69	14.65	7.32	8.54	5.55	0.79x2	
PS/HB*W300-8	8"	SR200	SR270	2.52	22.55	23.82	22.76	17.13	8.54	9.78	7.64	0.79x2	
PS/HB*W300-10	10"	SR230	SR270	2.83	26.06	28.97	27.17	28.46	9.78	11.42	9.41	1 1/4-8x4	
PS/HB*W300-12	12"	SR270	N/A	3.19	30.98	30.98	28.46	28.46	11.42	11.42	11.30	1-8x4	
PS/HB*W300-14	14"	SR270		3.62	32.24	N/A	28.46	N/A	11.42	N/A	13.03	1 1/8-8x4	

**Universal  
Components  
Inc.**

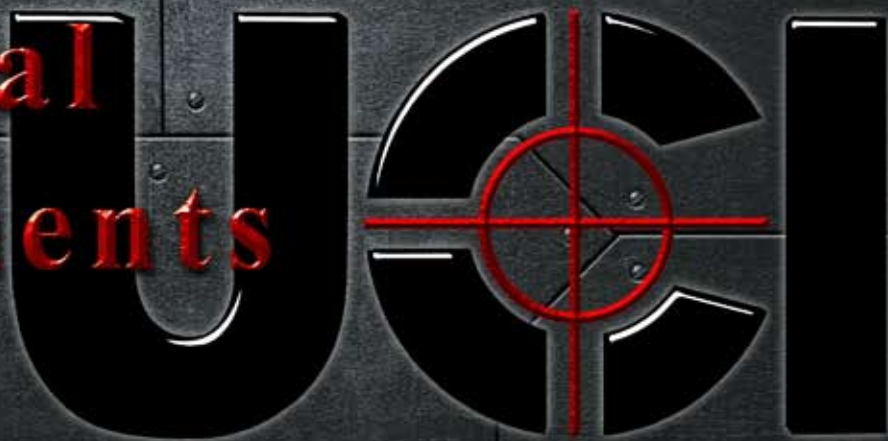


1313 Hall Spencer Road  
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[sales@ucimfg.com](mailto:sales@ucimfg.com)



Universal  
Components  
Inc.



Ball Valves



## BGF SERIES BALL VALVE

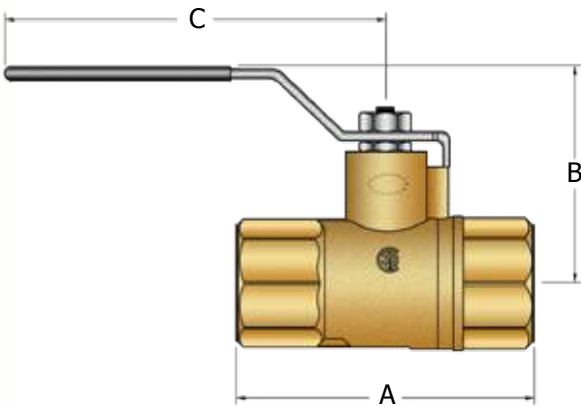


MSS SP-110 Compliant

### Features:

- Brass Full Port Ball Valve
- 29" Hg-600psi WOG, Cold Non-Shock
- Blow Out Proof Stem & Adjustable Stem Packing
- Temperature -0°F to 366°F
- NPT Standard Available Solder C/F
- Optional Nickel Plated Available, BGF-NP Series

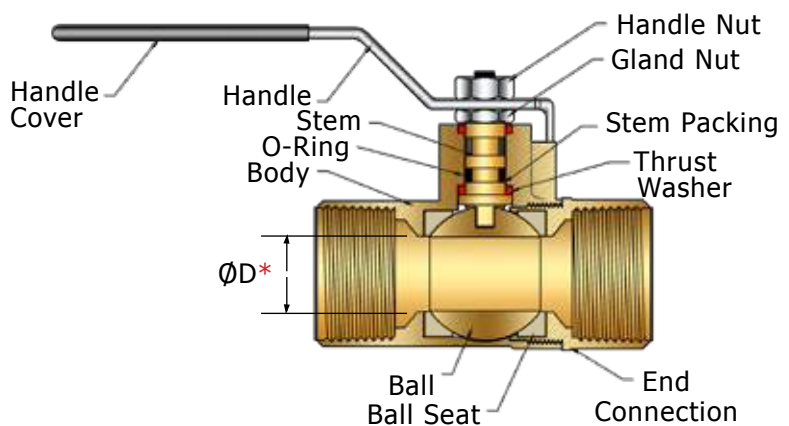
### Dimensions



PART #	NPT	A	B	C	ØD*	Cv	Wt. Lbs.
BGF-2	1/4"	1.75	1.84	3.54	0.40	6	0.33
BGF-3	3/8"	1.76	1.84	3.54	0.41	7	0.30
BGF-4	1/2"	2.05	1.92	3.54	0.58	19	0.44
BGF-6	3/4"	2.36	2.09	3.78	0.75	34	0.66
BGF-8	1"	2.76	2.56	4.53	0.95	50	1.10
BGF-10	1-1/4"	3.31	2.95	4.53	1.26	104	1.57
BGF-12	1-1/2"	3.66	3.35	5.51	1.58	268	2.40
BGF-16	2"	4.18	3.68	5.51	1.97	309	3.37
BGF-20	2-1/2"	5.38	4.76	8.66	2.52	629	7.60
BGF-24	3"	6.04	5.08	8.66	2.95	1018	9.36
BGF-32	4"	7.39	5.87	9.61	3.90	1622	16.85

### Bill of Materials

PART	Material
Body	Forged Brass
End Connection	Forged Brass
Ball	Brass, Chrome Plated
Stem	Brass, Chrome Plated
Ball Seats	PTFE
Stem Packing	PTFE
Gland Nut	Brass
Thrust Washer	PTFE
Handle	Steel
Handle Cover	PVC
Handle Nut	Steel
O-Ring	NBR (2-1/2" to 4" only)



# BGFLL SERIES BALL VALVE



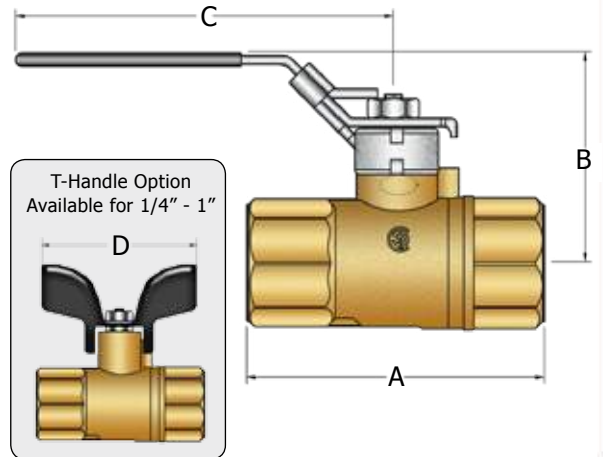
MSS SP-110 Compliant

## Features:

- Brass Full Port Ball Valve With Latch Lock Handle
- 29" Hg-600psi WOG, 150 WSP
- Blow Out Proof Stem
- Temperature to 366°F

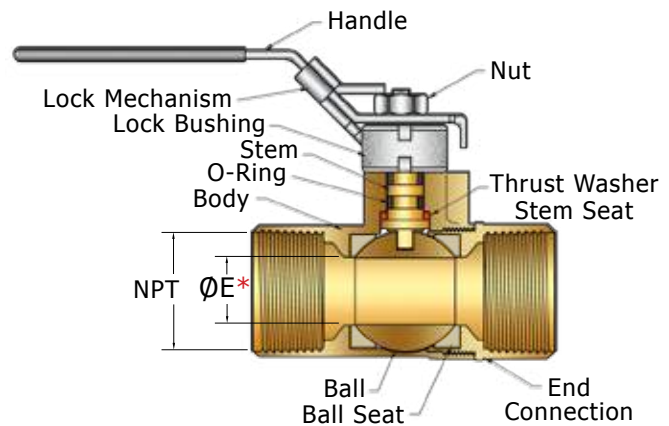
## Dimensions

PART #	NPT	A	B	C	D	ØE*	Cv	Wt. Lbs.
BGF-2LL	1/4"	2.02	1.83	3.78	1.97	0.39	6	0.33
BGF-3 LL	3/8"	2.02	1.83	3.78	1.97	0.39	7	0.30
BGF-4LL	1/2"	2.44	1.99	3.78	1.97	0.59	19	0.48
BGF-6LL	3/4"	2.71	2.48	4.84	2.54	0.79	34	0.79
BGF-8LL	1"	3.07	2.64	4.84	2.54	0.98	50	1.22
BGF-10LL	1-1/4"	3.42	3.15	5.94	N/A	1.26	104	2.14
BGF-12LL	1-1/2"	3.89	3.38	5.94		1.57	268	3.20
BGF-16LL	2"	4.33	3.74	6.30		1.95	309	4.08
BGF-20LL	2-1/2"	5.59	5.02	8.11		2.56	629	8.28
BGF-24LL	3"	6.45	5.45	8.11		3.15	1018	13.00
BGF-32LL	4"	7.60	6.56	10.28		3.94	1622	22.07



## Bill of Materials

PART	Material
Body	Brass CW 617N
End Connection	
Ball	
Stem	Brass CW 614N
O-Ring	NBR
Ball Seat	PTFE
Thrust Washer/ Stem Seat	
Nut	Steel
Handle & Lock	Steel
Lock Bushing	Die Cast Zinc Alloy
Tee Handle	Cast Aluminum





## BGFM SERIES BALL VALVE

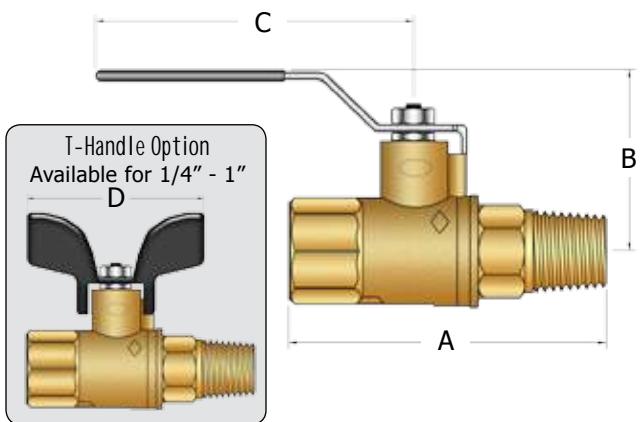
### Features:

- Brass Full Port Ball Valve
- 29" Hg-600psi WOG, 150 WSP
- Blow Out Proof Stem
- 0°F to 366°F Temperature Range
- NPT Standard
- Optional Nickel Plated Available, C/F
- Latch Lock Handle Available C/F



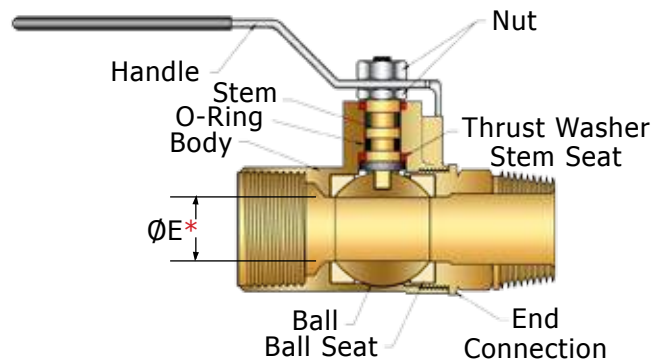
### Dimensions

PART #	NPT	A	B	C	D	ØE*	Cv	Wt. Lbs.
BGFM-2	1/4"	2.30	1.65	3.86	1.97	0.39	6.3	0.31
BGFM-3	3/8"	2.32	1.65	3.86	1.97	0.39	7.0	0.31
BGFM-4	1/2"	2.81	1.81	3.86	1.97	0.59	19.0	0.51
BGFM-6	3/4"	3.13	2.28	4.80	2.54	0.79	34.4	0.79
BGFM-8	1"	3.58	2.44	4.80	2.54	0.98	50.1	1.26



### Bill of Materials

PART	Material
Body	Brass CW 617N
End Connection	
Ball	
Stem	Brass CW 614N
O-Ring	NBR
Ball Seat	PTFE
Thrust Washer/ Stem Seat	
Nut	Steel
Handle	Steel
T-Handle	Cast Aluminum



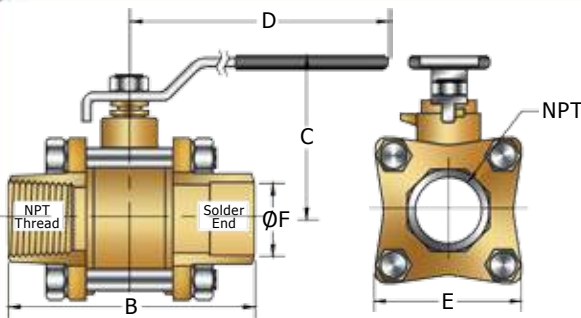
# B3F SERIES BALL VALVE



MSS SP-110 Compliant

## Features:

- Bronze Full Port 3-Piece Ball Valve
- 29" Hg-600psi WOG
- 150psi Saturated Steam
- Blow Out Proof Stem w/Adjustable Stem Packing
- Available in Stainless Steel Ball and Stem C/F
- RPTFE Seats
- -20°F to 400°F Temperature Range



## Dimensions

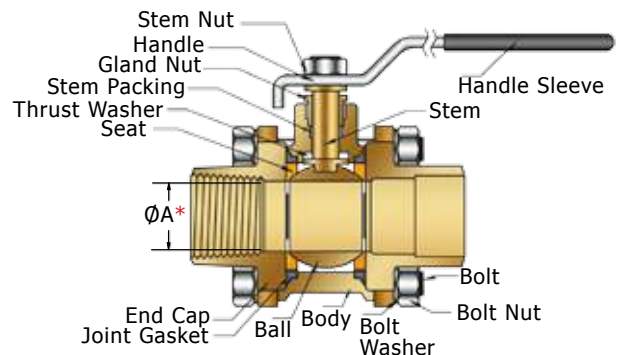
Part #	NPT	ØA*	B	C	D	E	ØF	Cv	Wt
B3F-2	1/4"	0.43	2.56	1.81	3.87	1.60	N/A	8.1	1.02
B3F-3	3/8"	0.50	2.56	1.81	3.87	1.60	0.50	14	1.04
B3F-4	1/2"	0.62	2.81	1.93	4.87	1.78	0.63	26	1.55
B3F-6	3/4"	0.81	3.43	2.18	4.87	1.98	0.88	51	2.27
B3F-8	1"	1.00	3.87	2.62	5.50	2.22	1.13	68	3.28
B3F-10	1-1/4"	1.25	4.75	2.87	5.50	2.70	1.38	120	5.62
B3F-12	1-1/2"	1.50	5.25	3.37	8.00	3.03	1.63	170	8.07
B3F-16	2"	2.00	6.03	3.68	8.00	3.87	2.13	376	14.42
B3F-20	2-1/2"	2.50	7.25	5.14	9.75	5.05	2.63	510	26.61
B3F-24	3"	3.00	8.37	8.10	19.13	5.82	3.13	996	43.00
B3F-32	4"	4.00	10.86	8.88	19.13	7.77	4.13	1893	106.00

### Suffix Options:

- LL = Latch Lock Handle
- S = Solder End
- BSPP = BSPP threads, parallel, 1/4" to 2"
- BSPT = BSPT threads, tapered, 1/4" to 2"
- OX = Oxygen Cleaned

## Bill of Materials

PART	Material
Body	ASTM B584-C84400 (Bronze)
End Cap	B16 (1/4"-3/8"), B584-C84400 (1/2"-4")
Ball	ASTM B16, Chrome Plated (1/4"-2-1/2") 316 SS (3"-4")
Stem	ASTM B16 (Brass), 316 SS (3"-4")
Stem Nut	Steel, Zinc Plated
Handle	Steel, Zinc Plated
Seat	RPTFE
Gland Nut	B16 Brass
Stem Packing	MPTFE (Chevron Style PTFE 3"-4")
Thrust Washer	PTFE
Bolt Washer	304 Stainless Steel
Joint Gasket	PTFE
Bolt	Steel, Zinc Plated
Handle Sleeve	Vinyl
Bolt Nut	Steel, Zinc Plated

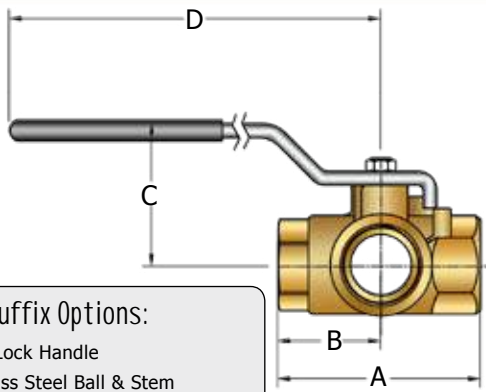




# BHMT SERIES BALL VALVE

## Features:

- 400 psig WOG, Cold Non-Shock
- Blowout-Proof Stem, With Adjustable Packing
- Diverter/Mixing Valve
- -35°F to 400°F Temperature Range



## Dimensions

PART #	NPT	A	B	C	D	ØE*	Cv	Lbs
BHM-2T	1/4"	2.25	1.09	1.80	3.88	0.50	2.3	0.86
BHM-3T	3/8"	2.27	1.12	1.80	3.88	0.50	4.5	0.84
BHM-4T	1/2"	2.75	1.10	1.75	3.88	0.50	5.4	0.99
BHM-6T	3/4"	3.00	1.50	2.12	4.87	0.68	12	1.91
BHM-8T	1"	3.20	1.59	2.20	4.87	0.87	14	2.42
BHM-10T	1-1/4"	3.98	1.99	2.69	5.50	1.00	21	4.27
BHM-12T	1-1/2"	4.40	2.21	2.87	5.50	1.25	34	5.82
BHM-16T	2"	4.69	2.34	3.00	5.50	1.50	47	8.55

### Suffix Options:

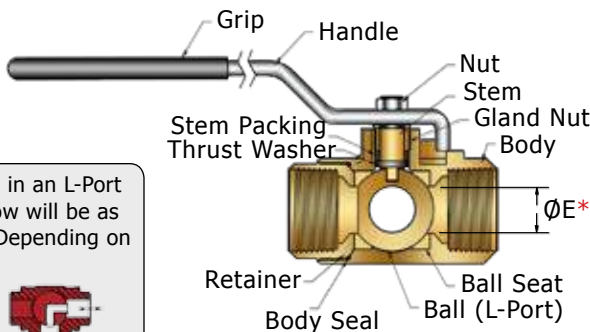
- LL = Latch Lock Handle
- SS = Stainless Steel Ball & Stem
- BSPP = BSPP threads, parallel, 1/4" to 2"
- BSPT = BSPT threads, tapered, 1/4" to 2"
- OX = Oxygen Cleaned

\* = See Below, on Material Drawing

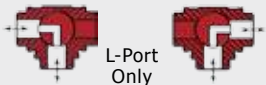
NOTE: Locking Handle Option Available. Locking Handle Orientation is 180° from Non-Locking Handle. Locking Handle Part Number Denotion, BHM-\*\*LL

## Bill of Materials

PART	Material
Handle	Zinc Plated Steel
Grip	Vinyl
Stem Packing	MPTFE
Thrust Washer	RPTFE
Ball	Chrome Plated B16 Brass
Ball Seat	RPTFE
Retainer	B16 (1/4" to 1") B584-C84400 (1-1/4" to 2")
Gland Nut	B16
Stem	B16
Handle Nut	Zinc Plated Steel
Body Seal	PTFE (1-1/2" to 2")
Body	B584-C84400



BHM-T Valves are in an L-Port Configuration. Flow will be as Depicted Below, Depending on Lever Position



# BHM SERIES BALL VALVE



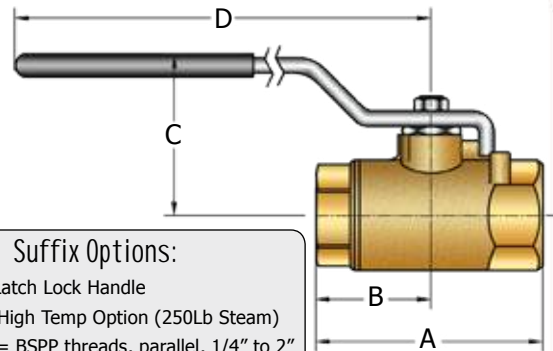
MSS SP-110 Compliant

## Features:

- 29" Hg-600psi WOG, Cold Non-Shock
- 150 psig Saturated Steam
- RPTFE Seats
- PTFE Seals (TFM on 4")
- -35°F to 400°F Temperature Range

## Dimensions

PART #	NPT	A	B	C	D	ØE*	Cv	Wt
BHM-2	1/4"	2.06	1.03	1.75	3.87	0.37	8	0.60
BHM-3	3/8"	2.06	1.03	1.75	3.87	0.37	7	0.56
BHM-4	1/2"	2.25	1.12	1.75	3.87	0.50	15	0.63
BHM-6	3/4"	3.00	1.50	2.12	4.87	0.68	30	1.39
BHM-8	1"	3.37	1.68	2.25	4.87	0.87	43	1.72
BHM-10	1-1/4"	4.00	2.00	2.62	5.50	1.00	48	3.26
BHM-12	1-1/2"	4.37	2.18	3.06	8.00	1.25	84	4.61
BHM-16	2"	4.68	2.34	3.25	8.00	1.50	108	6.06
BHM-20	2-1/2"	6.25	3.12	3.72	8.00	2.00	190	17.25
BHM-24	3"	6.75	3.37	4.12	8.00	2.50	370	18.60
BHM-32	4"	7.37	3.69	5.25	9.94	3.12	670	25.50

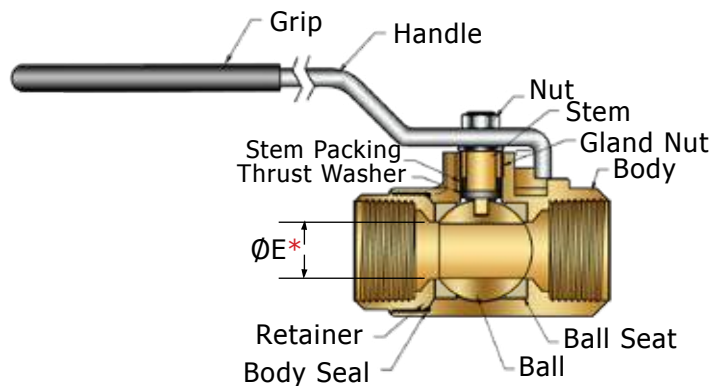


### Suffix Options:

- LL = Latch Lock Handle
- HT = High Temp Option (250Lb Steam)
- BSPP = BSPP threads, parallel, 1/4" to 2"
- BSPT = BSPT threads, tapered, 1/4" to 2"
- OX = Oxygen Cleaned
- DMC = Spring Return Closed (see pg.49)
- DMO = Spring Return Open (see pg.49)

## Bill of Materials

PART	Material
Handle	Zinc Plated Steel
Grip	Vinyl
Stem Packing	MPTFE
Thrust Washer	RPTFE
Ball	B16, Chrome Plated
Seat (2)	RPTFE (1/4"to3"), TFM (4")
Retainer	B16 (1/4"to1") B584-C84400 (1.25"to4")
Gland Nut	B16
Stem	
Handle Nut	Zinc Plated Steel
Body Seal	PTFE (1/4"to4")
Body	B584-C84400



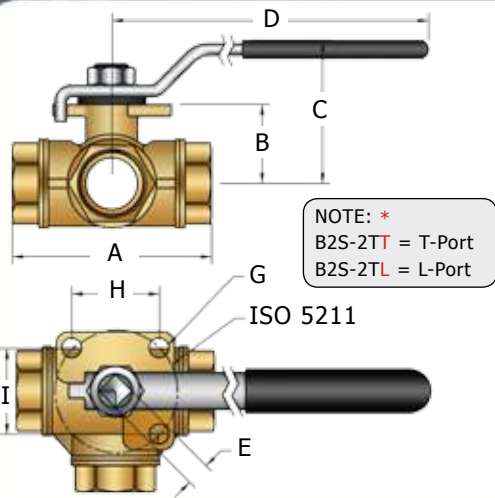


# B2S-TT & TL SERIES BALL VALVE



MSS SP-110 Compliant

- ### Features:
- 29"-Hg 400psig WOG Cold Non-Shock
  - ISO 5211 Mounting Pad
  - 4 Seat Design for Sealing Between Pressurized Ports
  - RTFE Seats with O-Ring backed Seat for Low Operating Torque
  - 100psig Saturated Steam
  - -20°F to 344°F Temperature Range

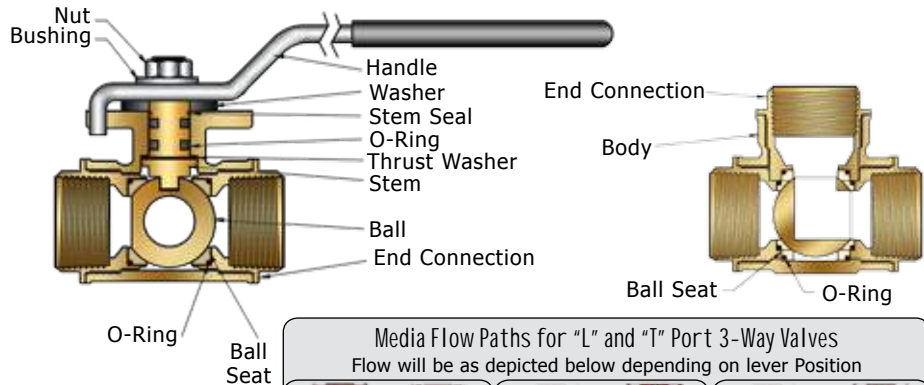


### Dimensions

PART #	NPT	A	B	C	D	E in/mm	ISO 5211	G	H&I	Break Torque in/Lbs	Cv TT/TL	WT Lbs.
B2S-2T*	1/4"	2.64	1.20	2.44	4.72	.35/9	F03	0.23	1.00	54	3.26 TT 3.50 TL	1.22
B2S-3T*	3/8"	2.64	1.20	2.44	4.72	.35/9	F03	0.23	1.00	54	3.50 TT 4.08 TL	1.16
B2S-4T*	1/2"	2.87	1.20	2.44	4.72	.35/9	F03	0.23	1.00	54	4.20 TT 5.02 TL	1.21
B2S-6T*	3/4"	3.19	1.29	2.52	4.72	.35/9	F03	0.23	1.00	54	7.00 TT 7.70 TL	1.44
B2S-8T*	1"	3.74	1.63	2.95	6.69	.43/11	F05	0.27	1.39	54	12.83 TT 14.24 TL	2.64
B2S-10T*	1-1/4"	4.39	1.85	3.17	6.69	.43/11	F05	0.27	1.39	54	18.67 TT 19.72 TL	4.15
B2S-12T*	1-1/2"	4.86	2.34	3.66	6.69	.43/11	F05	0.27	1.39	151	29.75 TT 30.69 TL	6.02
B2S-16T*	2"	5.73	2.90	4.43	9.05	.43/11	F07	0.35	1.95	151	43.76 TT 48.58 TL	9.08
B2S-20T*	2 1/2"	6.93	3.35	4.86	9.05	.43/11	F07	0.35	1.95	275	70.00 TT 72.35 TL	16.33
B2S-24T*	3"	7.08	3.35	4.86	9.05	.43/11	F07	0.35	1.95	275	70.00 TT 72.35 TL	19.55

## Bill of Materials

PART	Material
Body	Brass
End Connection	
Ball	CW 617 12165
Ball Seat	PTFE
Thrust Washer	
Stem Seal	Brass
Bushing	
Stem	CW 614 12164
O-Rings	FKM (Viton®)
Screw	Steel 6/S
Stem	Brass
Bushing	CW 614 12164
Washer	Nylon
Handle	Plated Steel





# B2F SERIES BALL VALVE



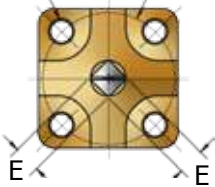
MSS SP-110 Compliant



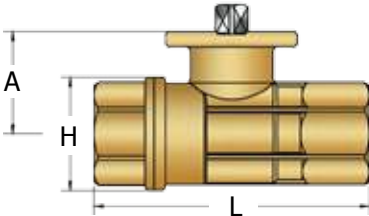
## Features:

- Brass Full Port Ball Valve, ISO 5211 Mounting Pad
- 600 psi WOG - 150 WSP
- Blowout-Proof Stem, w/Chrome Plated Ball
- PTFE Seats w/Viton® O-Ring Backed Seat for Low Torque
- Available w/Stainless Steel Ball + Stem, or Lead Free Option C/F
- 0°F to 366°F Temperature Range

B ISO 5211



NOTE: \*\*  
Use Suffix "SS" for Stainless Steel Ball & Stem  
example: B2F-2SS (1/4" to 2" only)



## Dimensions

PART #	NPT	A	H	L	B	E in/mm	ISO 5211	Break Torque in/Lbs.	Cv	Wt Lbs.
B2F-2**	1/4"	1.28	1.32	2.64	0.24	.35/9	F03	54	6	0.82
B2F-3**	3/8"	1.28	1.32	2.64	0.24	.35/9	F03	54	6	0.79
B2F-4**	1/2"	1.28	1.32	2.64	0.24	.35/9	F03	54	19	0.66
B2F-6**	3/4"	1.36	1.57	3.00	0.24	.35/9	F03	54	34	0.91
B2F-8**	1"	1.79	1.93	3.35	0.24	.35/9	F03	54	50	1.55
B2F-10**	1-1/4"	1.93	2.30	3.66	0.24	.35/9	F03	54	103	2.14
B2F-12**	1-1/2"	2.52	2.87	4.13	0.27	.43/11	F05	151	268	3.71
B2F-16**	2"	2.88	3.60	4.80	0.27	.43/11	F05	151	309	5.52
B2F-20	2-1/2"	3.48	4.51	6.10	0.35	.55/14	F07	275	629	8.83
B2F-24	3"	3.85	5.35	6.89	0.35	.55/14	F07	275	1018	13.29
B2F-32	4"	4.59	6.53	8.03	0.35	.67/17	F07	647	1622	21.54

## Bill of Materials

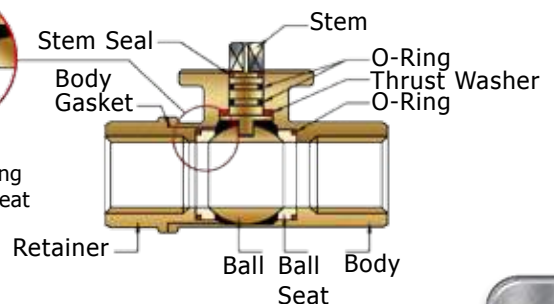
PART	Material
Body	Brass CW 617N 12165
Retainer	Brass CW 617N 12165
Ball	Brass CW 617N 12165
Ball Seat	PTFE
Stem Seal	PTFE
Thrust Washer	PTFE
Stem	Brass CW 614N 12164
O-Ring's	FKM (Viton®)
Body Gasket	PTFE

## Lead Free Option

Available in Sizes 1/2" to 2" only



NOTE: O-Ring  
Back PTFE Seat





# NB-NBSS SERIES BALL VALVE



NB-Series

MSS SP-110 Compliant

NBSS-Series

## NB-Series:

- Nickel Plated Brass
- Pressure Rating 450psi WOG
- Temperature to 330°F
- Blowout Proof Stem, Chrome Plated Ball
- PTFE Seats and Viton® O-Rings

## NBSS-Series:

- 316 Stainless Steel
- Pressure Rating 800Psi WOG
- Temperature to 350°F
- Blowout Proof Stem
- PTFE Seats and Viton® O-Rings

## Features:

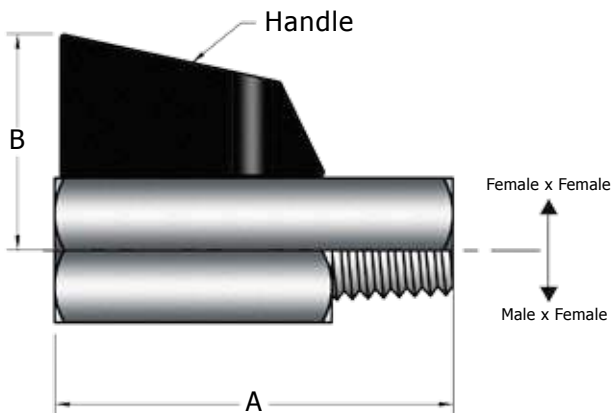
## Dimensions

Nickel Plated Brass

PART #		NPT	A	B	Cv	Wt. Lbs.
Female x female	Male x female					
NB-1	NB-M1	1/8"	1.61	1.16	5.00	0.25
NB-2	NB-M2	1/4"	1.69	1.16	5.00	0.20
NB-3	NB-M3	3/8"	1.69	1.16	3.13	0.17
NB-4	NB-M4	1/2"	2.16	1.24	6.26	0.28
NB-6	NB-M6	3/4"	2.36	2.36	8.46	0.49

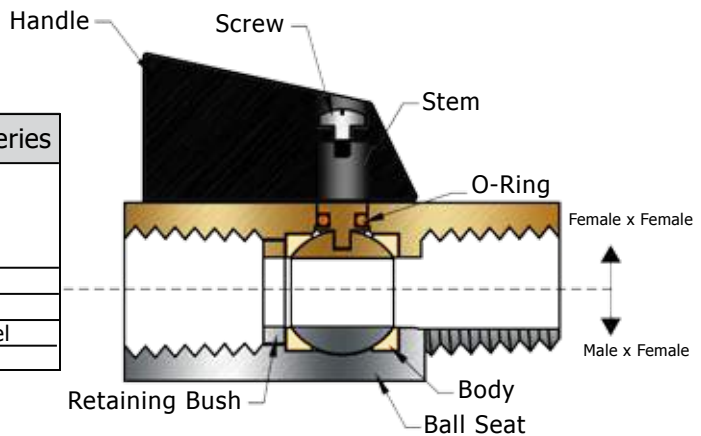
Stainless Steel

PART #		NPT	A	B	Cv	Wt. Lbs.
Female x female	Male x female					
SSNB-2	SSNB-M2	1/4"	1.69	1.16	5.00	0.36
SSNB-3	SSNB-M3	3/8"	1.69	1.16	3.13	0.35
SSNB-4	SSNB-M4	1/2"	2.16	1.24	6.26	0.35



## Bill of Materials

PART	NB &NB-M Series	SSNB & SSNB-M Series
Body	Nickel Plated Brass	Stainless Steel
Retainer		
Ball	CW 617N 12165	
Stem	AISI 316	
Ball Seat	PTFE	PTFE
O-Ring	Viton®	Viton®
Screw	Steel 6/S	304 Stainless Steel
Handle	Glass Reinforced Nylon	ABS Plastic

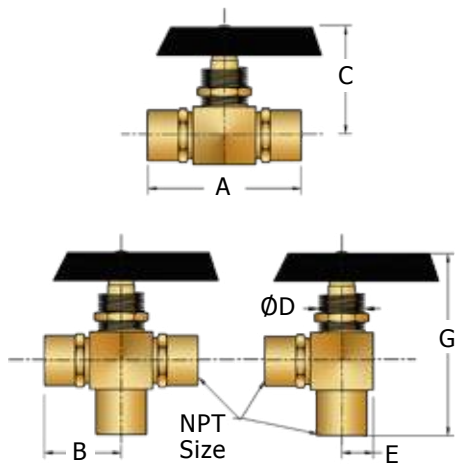


# B2-B3-B290 SERIES BALL VALVE



## Features:

- 29" Hg-1500psi WOG, Cold Non-Shock
- Blowout Proof Stem
- Teflon® Seats
- Temperature -40°F to 300°F
- Nickel Plated Brass Ball
- Panel Mount



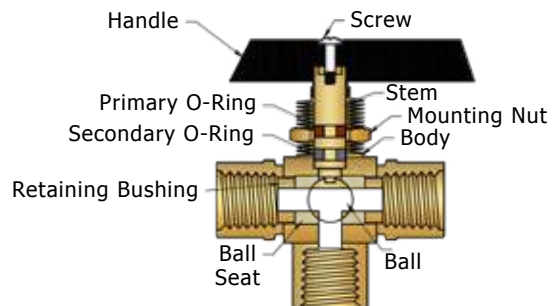
## Dimensions

PART #	NPT	A	B	C	ØD	E	G*	Cv	Wt. Lbs.
B2-F1									0.27
B290-F1	1/8"	1.84	0.92	1.25	0.25	0.38	2.12	1.39	C/F
B3-F1									0.31
B2-F1									0.25
B290-F1	1/4"	1.84	0.92	1.25	0.25	0.38	2.12	1.59	0.24
B3-F1									0.27
B2-F1									0.56
B290-F1	3/8"	2.20	1.10	1.42	0.33	0.75	2.59	2.74	C/F
B3-F1									0.59
B2-F1									0.52
B290-F1	1/2"	2.38	1.19	1.42	0.33	0.75	2.59	2.74	C/F
B3-F1									0.57

\*= G dimension applies to B3 and B290 only

## Bill of Materials

B2, B3, and B290 Series	
Body	Brass
Stem	
Retaining Bushing	
End Fittings	
Mounting Nut	
Ball Seat	Teflon
Ball	Nickel Plated Brass
Primary O-Ring	Viton®
Secondary O-Ring	AFLAS
Handle	Cast Aluminum
Screw	Steel



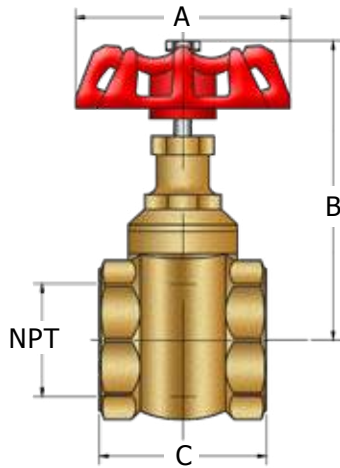


## BGV SERIES GATE VALVE



### Features:

- 200 psi Non-Shock CWP
- Non Rising Stem
- PTFE Stem Seal
- NPT Female by Female Std.
- Solder End Available C/F
- Cast Aluminum Hand Wheel
- Temperature 40°F to 200°F

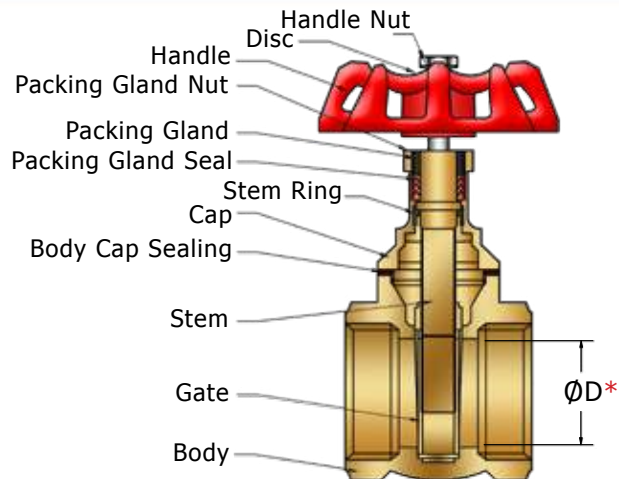


### Dimensions

PART #	NPT	A	B	C	ØD*	Psi	Wt. Lbs.
BGV-4	1/2"	2.13	2.80	1.69	0.50	200	0.50
BGV-6	3/4"	2.13	2.99	1.77	0.67	200	0.65
BGV-8	1"	2.44	3.45	2.05	0.83	200	0.95
BGV-10	1-1/4"	2.68	3.96	2.32	1.06	200	1.40
BGV-12	1-1/2"	2.68	4.37	2.48	1.34	200	1.90
BGV-16	2"	3.07	5.16	2.72	1.77	200	2.75
BGV-20	2-1/2"	3.94	6.34	3.47	2.21	200	5.65
BGV-24	3"	4.33	7.42	3.74	2.67	200	7.25
BGV-32	4"	5.12	9.13	4.49	3.54	200	C/F

### Bill of Materials

PART	Material
Body	Brass CW 617N
Gate	
Stem	PTFE
Body Cap Sealing	
Cap	Brass CW 617N
Stem Ring	Brass CW 617N
Packing Gland Seal	PTFE
Packing Gland	Brass CW 617N
Packing Gland Nut	Brass CW 617N
Red Round Handle	Steel
Disc	Aluminum
Handle Nut	Brass CW 617N

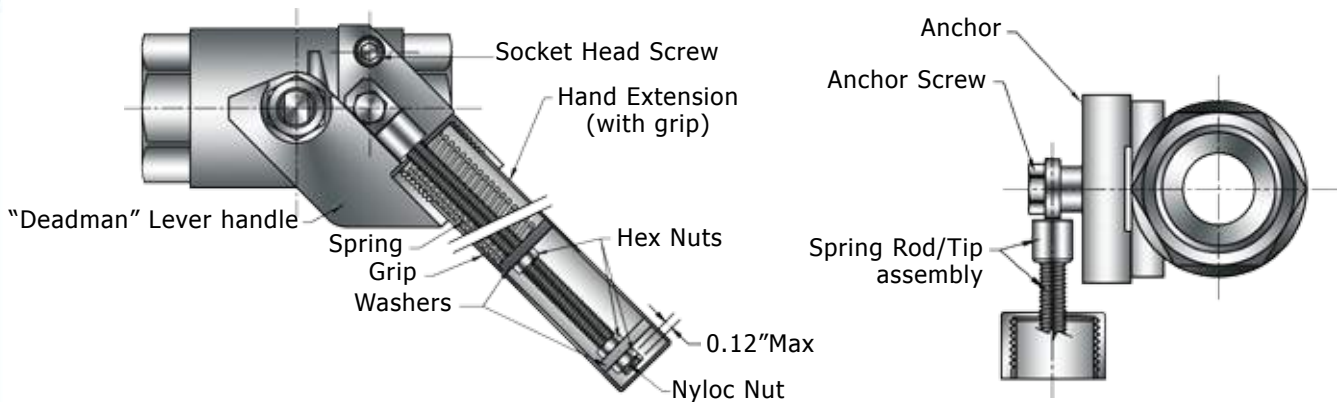


# BHMDM/SHMDM SERIES BALL VALVE



## Features:

- Spring Return Close use Suffix DMC
- Spring Return Open use Suffix DMO
- All Components of Lever are S.S.
- Stainless Valve Specs See Page MBV62
- Bronze Valve Specs See Page MBV43



DMO = Dead Man Open  
 DMC = Dead Man Closed

Note: Dimensions for threading hex nut onto spring rod are approximate, adjust tension to give best on/off service

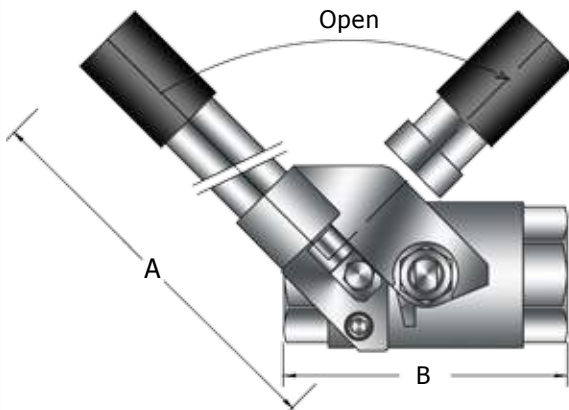
## Dimensions

SIZE	A	B
1/4"	7.00	2.25
3/8"	7.00	2.25
1/2"	7.00	2.25
3/4"	7.00	3.00
1"	7.00	3.37
1-1/4"	9.00	4.00
1-1/2"	9.00	4.37
2"	9.00	4.68

## Kit Contents

Qty	Description
1	Nyloc Nut
2	Hex Nuts
1	Anchor
1	Anchor Screw
2	Socket Head Screws
2	Washers
1	Grip*
1	Lever Handle
1	Handle Extension
1	Spring
1	Spring Rod/Tip Assembly

\* Preassembled to Handle Extension  
 All Components are made of  
 Stainless Steel

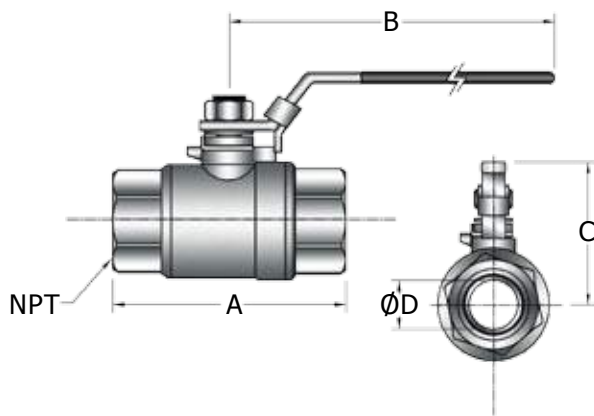




## SGF SERIES BALL VALVE

### Features:

- 316 Stainless Steel (CF8M)
- Full Port 2-Piece Ball Valve
- 29" Hg-1000psi WOG
- Blow Out Proof Stem
- Latch Lock Handle Standard
- RPTFE Seats and PTFE Seals
- Temperature -20°F to 400°F

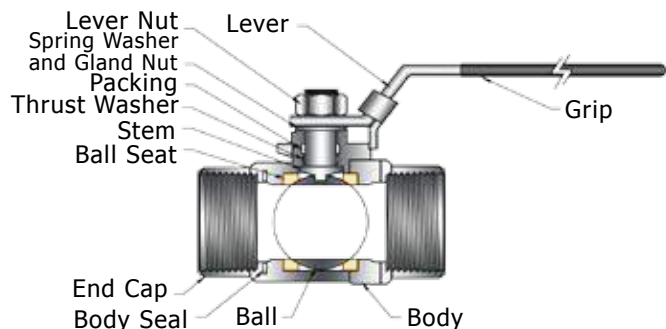


### Dimensions

PART #	NPT	A	B	C	ØD	Cv	Wt. Lbs.
SGF-2	1/4"	2.00	3.94	2.30	0.46	6	0.50
SGF-3	3/8"	2.00	3.94	2.30	0.49	6	0.50
SGF-4	1/2"	2.28	3.94	2.30	0.59	18	0.70
SGF-6	3/4"	2.58	4.92	2.50	0.79	34	1.00
SGF-8	1"	3.10	5.87	3.07	0.98	49	1.70
SGF-10	1-1/4"	3.54	5.87	3.27	1.26	103	2.50
SGF-12	1-1/2"	4.13	7.48	4.02	1.50	266	3.90
SGF-16	2"	4.88	7.48	4.25	1.97	307	5.90
SGF-20	2-1/2"	5.75	9.84	5.43	2.48	C/F	12.40
SGF-24	3"	6.46	9.84	5.75	2.99	C/F	16.50
SGF-32	4"	9.45	11.81	6.89	3.94	C/F	30.00

### Bill of Materials

PART	Material
Body	ASTM A351-CF8M
End Cap	
Ball	
Stem	
Gland Nut	
Spring Washer	AISI 304
Lever	
Lever Nut	
Body Seal	PTFE
Packing	
Thrust Washer	
Ball Seat	RPTFE
Grip	PVC

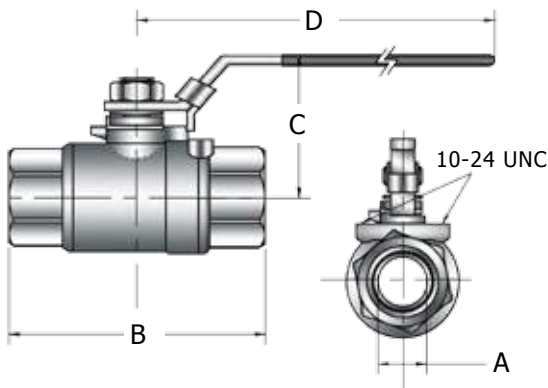


# S2S SERIES BALL VALVE



## Features:

- 316 Stainless Steel (CF8M)
- Standard Port 2-Piece Ball Valve
- 29" Hg-2000psi WOG
- Blow Out Proof Stem
- Latch Lock Handle Standard
- RTFE Seats and PTFE Seals
- Temperature -20°F to 400°F

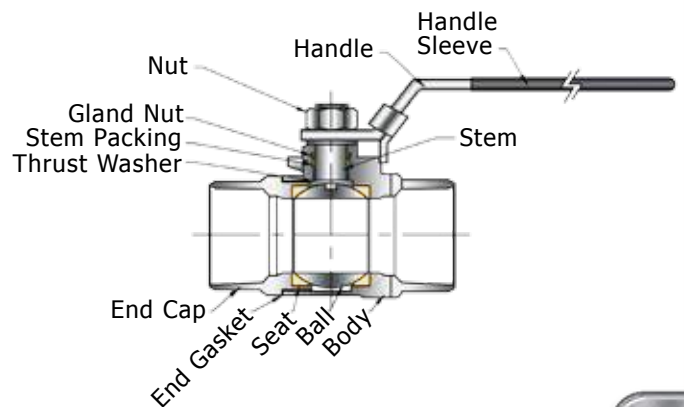


## Dimensions

PART #	NPT	A	B	C	D	Cv	Wt	torque in/Lbs
S2S-2	1/4"	0.38	2.00	1.97	3.78	6	0.51	30
S2S-3	3/8"	0.46	2.00	1.97	3.78	7	0.51	30
S2S-4	1/2"	0.50	2.40	1.97	3.78	10	0.62	40
S2S-6	3/4"	0.59	2.67	2.09	3.78	16	0.99	60
S2S-8	1"	0.79	3.26	2.52	4.92	24	1.47	115
S2S-10	1-1/4"	1.00	3.54	2.60	4.92	47	1.98	160
S2S-12	1-1/2"	1.26	4.09	3.10	6.70	90	3.15	220
S2S-16	2"	1.50	4.60	3.27	6.70	125	5.17	300

## Bill of Materials

Part	Material
Body	CF8M
Ball	AISI 316
Seat	RTFE
End Gasket	PTFE
End Cap	CF8M
Stem	AISI 316
Thrust Washer	RTFE
Stem Packing	PTFE
Gland Nut	AISI 316
Handle	
Handle Sleeve	Vinyl
Nut	AISI 316





# S2F SERIES BALL VALVE

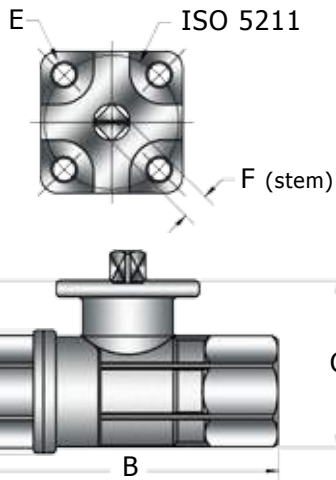
MSS SP-110 Compliant



Complies with NACE MR0175,  
ISO 15156 & NACE MR 0103

## Features:

- 316 Stainless Steel Full Port Ball Valve
- ISO 5211 Mounting Pad
- 1000 psi WOG - 150 WSP
- Blow Out Proof Stem
- PTFE with Viton® O-Ring Backed Seats for Low Torque
- Temperature 0°F to 366°F

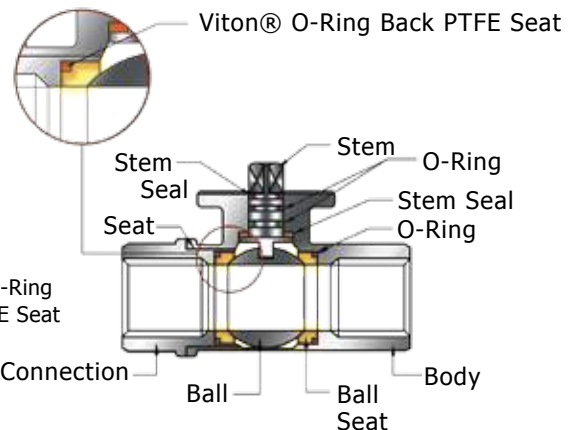


## Dimensions

PART #	NPT	A	B	C	D	E	F in/mm	ISO 5211	Break Torque in/Lbs	Cv	Wt
S2F-2	1/4"	1.52	2.56	2.24	1.44	0.24	.35/9	F03 F04	27	7	0.95
S2F-3	3/8"	1.52	2.56	2.24	1.44	0.24	.35/9	F03 F04	27	10	0.89
S2F-4	1/2"	1.28	2.63	1.96	1.35	0.24	.35/9	F03	54	18	0.68
S2F-6	3/4"	1.36	3.07	2.19	1.65	0.24	.35/9	F03	54	34	0.91
S2F-8	1"	1.75	3.54	2.76	2.02	0.24	.35/9	F03	54	49	1.35
S2F-10	1-1/4"	1.89	3.93	3.16	2.53	0.24	.35/9	F03	54	103	2.22
S2F-12	1-1/2"	2.48	4.40	4.00	3.03	0.27	.43/11	F05	151	267	3.69
S2F-16	2"	2.84	5.31	4.75	3.81	0.27	.43/11	F05	151	307	6.49
S2F-20	2 1/2"	4.28	6.32	6.60	4.64	0.39 0.47	.67/17	F07 F10	484	322	16.38
S2F-24	3"	4.63	7.01	7.37	5.48	0.39 0.47	.67/17	F07 F10	772	584	22.82

## Bill of Materials

PART	Material
Body	CF8M
End Connection	CF8M
Ball	AISI 316-CF8M
Ball Seat	PTFE
Seat	PTFE
Stem Seal	PTFE
O-Rings	FKM (Viton®)
Stem	AISI 316
Stem Seal	PTFE



NOTE: O-Ring  
Back PTFE Seat

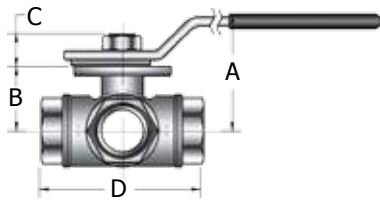


# S2S/S2F-TT & TL SERIES BALL VALVE

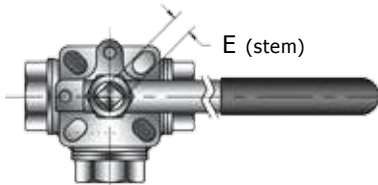


## Features:

- Stainless Steel 3-Way Ball Valve
- 29" Hg-1000psi WOG (1/4" to 1"), 800psi (1-1/4" to 2")
- ISO 5211 Mounting Pad
- 4 RTFE Seat Design for Sealing Between Pressurized Ports
- Temperature -20°F to 450°F



NOTE: \*  
S2S-3TT = T-Port  
S2S-3TL = L-Port

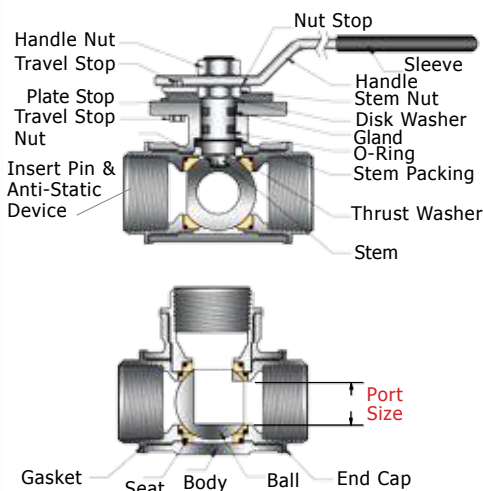


## Dimensions

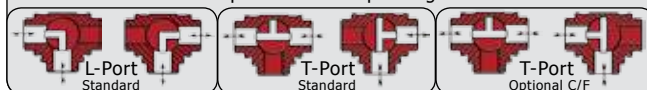
PART # Full Port	PART # Std Port	Port Size	A	B	C	D	E in/mm	ISO 5211	Break Torque in/Lbs	Wt. Lbs.
S2F-2T*	N/A	0.43	2.44	1.45	0.40	2.83	.35/9	F03/04	105	1.45
S2F-3T*	S2S-4T*	0.47	2.44	1.45	0.40	2.83	.35/9	F03/04	105	1.41
S2F-4T*	S2S-6T*	0.59	2.51	1.65	0.45	3.26	.35/9	F03/04	138	1.87
S2F-6T*	S2S-8T*	0.78	3.22	1.90	0.59	3.89	.43/11	F04/05	184	3.21
S2F-8T*	S2S-10T*	0.98	3.50	2.18	0.55	4.40	.43/11	F04/05	323	4.80
S2F-10T*	S2S-12T*	1.25	3.85	2.48	0.64	4.92	.55/14	F05/07	461	7.23
S2F-12T*	S2S-16T*	1.49	4.25	2.88	0.62	5.86	.55/14	F05/07	633	11.5
S2F-16T*	N/A	1.96	5.51	3.63	0.88	6.85	.66/17	F07/10	1037	20.9

## Bill of Materials

PART	Material	PART	Material
End Cap	A351 CF8M	Stem Nut	304 Stainless Steel
Gasket	PTFE	Nut Stop	
Body	A351 CF8M	Space Washer	
Ball	316 Stainless Steel	Plate Stop	
Seats	RTFE	Handle Nut	
Stem	316 Stainless Steel	Handle	
Stem Seal	RPTFE	Handle Sleeve	Vinyl
O-Ring	Viton®	Travel Stop	304 Stainless Steel
Stem Packing	PTFE	Travel Stop Nut	
Gland	304 Stainless Steel	Insert Pin	316 Stainless Steel
Disk Washer	301 Stainless Steel	Antistatic Device	



Media Flow Paths for "L" and "T" Port 3-Way Valves  
Flow will be as depicted below depending on lever position





## S3F SERIES BALL VALVE

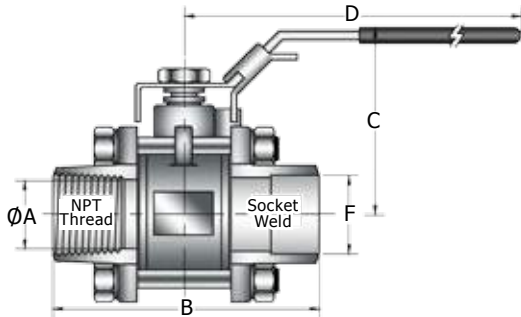


### Features:

- Stainless Steel 3-Piece Full Port Ball Valve
- Latch Lock Handle Standard
- 29" Hg-1000psig WOG, Cold Non-Shock (1/4" to 2"), (800psi 2-1/2" to 4")
- Blow Out Proof Stem, with/Adjustable Stem Packing
- RTFE Seats with PTFE Stem Packing
- Temperature -20°F to 450°F

### Connection Options:

- NPT End = Standard ( no suffix)
- Socket Weld = use Suffix "W"

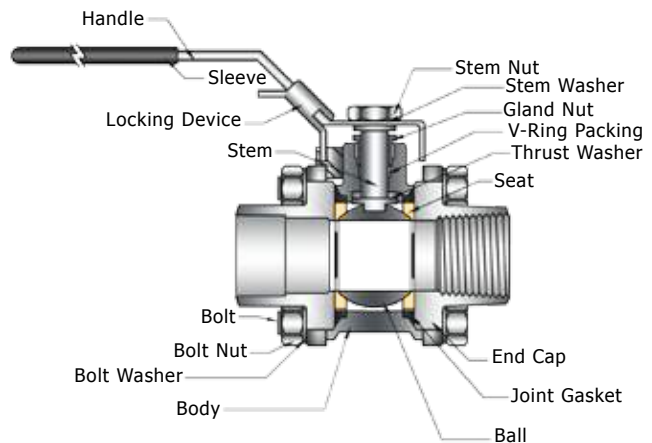


### Dimensions

Part #	NPT	ØA	B	C	D	F	Break Torque in/Lbs	Cv	Wt
S3F-2	1/4"	0.46	2.26	2.00	4.00	0.56	40	8	0.78
S3F-3	3/8"	0.51	2.26	2.00	4.00	0.70	40	10	0.74
S3F-4	1/2"	0.60	2.62	2.40	5.20	0.87	60	14	1.25
S3F-6	3/4"	0.80	3.05	2.56	5.20	1.09	80	24	1.67
S3F-8	1"	1.00	3.44	2.84	6.60	1.36	120	45	2.31
S3F-10	1-1/4"	1.28	4.11	3.12	6.60	1.71	240	82	3.88
S3F-12	1-1/2"	1.52	4.76	3.44	7.60	1.95	420	125	5.37
S3F-16	2"	2.00	5.26	3.80	7.60	2.44	560	200	8.16
S3F-20	2-1/2"	2.60	6.56	5.20	10.00	2.94	1100	290	15.83
S3F-24	3"	3.20	7.28	5.92	10.00	3.60	1600	470	23.42
S3F-32	4"	3.99	9.28	7.28	11.02	4.61	3200	800	46.29

### Bill of Materials

PART	Material
Body	CF8M
End Cap	
Ball	316 Stainless Steel
Stem	316 Stainless Steel
Stem Nut	304 Stainless Steel
Stem Washer	304 Stainless Steel
Handle	
Seat	RTFE
Gland Nut	304 Stainless Steel
V-Ring Packing	PTFE
Thrust Washer	
Bolt Washer	304 Stainless Steel
Joint Gasket	PTFE
Bolt	304 Stainless Steel
Locking Device	304 Stainless Steel
Handle Sleeve	Vinyl
Bolt Nut	304 Stainless Steel

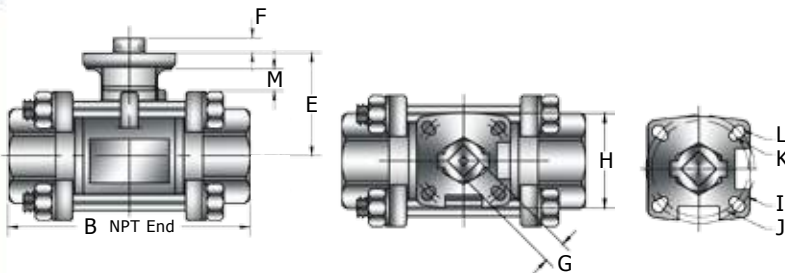


# S3FDM SERIES BALL VALVE

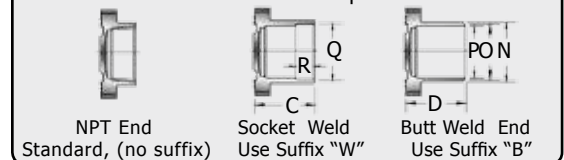


## Features:

- Stainless Steel 3-Piece Full Port Ball Valve
- ISO 5211 Mounting Pad
- 1000psi WOG, 1/2" to 2"
- Blow Out Proof Stem, Multi-Layer V-Ring
- Adjustable Stem Packing
- PTFE Seats and Viton® O-Ring
- Available in Carbon Steel C/F
- Latch Lock Handle Standard
- Temperature -20°F to 450°F



## Connection Options:

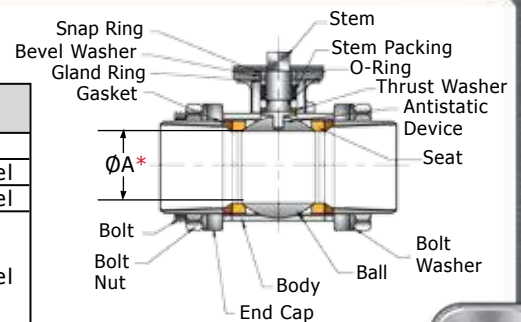


## Dimensions

Part #	NPT	ØA*	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	Wt Lbs
S3FDM-4	1/2"	0.59	2.58	2.58	2.54	1.69	0.35	0.35	1.65	1.42	1.65	0.12	0.12	0.63	0.91	0.75	0.62	0.87	0.43	1.50
S3FDM-6	3/4"	0.79	3.11	3.11	2.99	1.83	0.35	0.35	1.65	1.42	1.65	0.12	0.12	0.63	1.10	0.94	0.83	1.08	0.53	1.85
S3FDM-8	1"	0.98	3.39	3.39	3.35	1.98	0.43	0.43	1.97	1.65	1.97	0.12	0.14	0.67	1.38	1.24	1.05	1.36	0.53	2.75
S3FDM-10	1-1/4"	1.26	4.13	4.13	4.06	2.17	0.43	0.43	1.97	1.65	1.97	0.12	0.14	0.67	1.69	1.54	1.38	1.70	0.55	3.95
S3FDM-12	1-1/2"	1.50	4.69	4.69	4.69	2.66	0.55	0.55	2.76	1.97	2.76	0.14	0.18	0.83	1.97	1.77	1.59	1.94	0.59	5.85
S3FDM-16	2"	1.97	5.24	5.24	5.24	2.97	0.55	0.55	2.76	1.97	2.76	0.14	0.18	0.83	2.40	2.20	2.07	2.41	0.69	8.50

## Bill of Materials

PART	Material	PART	Material
Body	CF8M	Stem Packing	PTFE
Cap		Gland Ring	304 Stainless Steel
Ball		Bevel Washer	301 Stainless Steel
Stem	316 Stainless Steel	Snap Ring	304 Stainless Steel
Seat		Bolts	
Gasket	PTFE	Bolt Nuts	
Thrust Washer	Polyfill Teflon	Bolt Washer	
O-Ring	Viton®	Static Device	

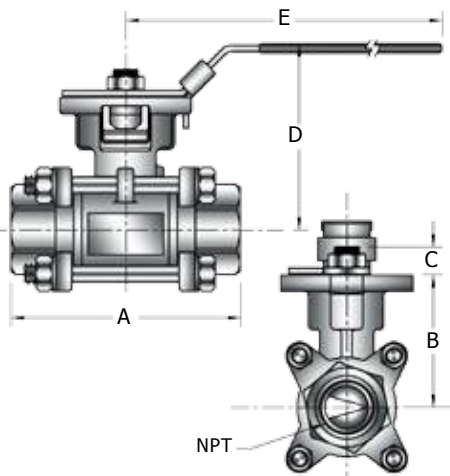




# S3FV SERIES BALL VALVE

## Features:

- Stainless Steel 3-Piece, V-Cut Ball Valve
- ISO 5211 Mounting Pad
- Available in Latch Lock Handle
- 50% Stainless Steel/50% PTFE Seats
- Class VI Shut-Off
- Blow Out Proof Stem, Anti-Static Design
- Available in NPT and Socket Weld
- Temperature -18°F to 428°F



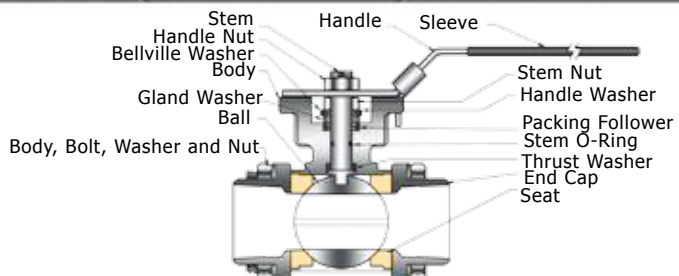
## Dimensions

Part #	NPT	A	B	C	D	F	ISO 5211	Drive	Break Torque in/Lbs	Wt. Lbs.
S3FV-4**	1/2"	2.50	1.46	0.33	2.87	4.41	F03/F05	9mm	62	1.30
S3FV-6**	3/4"	2.85	1.77	0.33	3.18	4.41	F03/F05	9mm	71	1.75
S3FV-8**	1"	3.19	2.11	0.45	3.56	5.35	F03/F05	9mm	124	2.40
S3FV-10**	1-1/4"	3.72	2.32	0.45	3.89	7.28	F03/F05	9mm	195	C/F
S3FV-12**	1-1/2"	4.25	2.94	0.55	4.54	7.79	F05/F07	14mm	275	5.65
S3FV-16**	2"	4.78	3.29	0.54	4.88	7.79	F05/F07	14mm	284	5.90
S3FV-20**	2-1/2"	6.20	4.28	0.71	6.10	10.40	F07/F10	17mm	682	C/F
S3FV-24**	3"	7.48	4.66	0.71	8.21	10.40	F07/F10	17mm	744	26.25
S3FV-32**	4"	8.86	6.06	0.91	8.53	12.80	F07/F10	17mm	1355	C/F

Note: \*\* = Degree of V-Port Opening (30,60,90 Degree)

## Bill of Materials

PART	Material
Body	304 Stainless Steel
Ball	
End Cap	
Gland Bushing	
Handle	
Stem Nut	
Handle Washer	
Handle Nut	
Body Bolt	
Body Nut	
Washer	Viton®
Stem O-Ring	50% SS + 50% PTFE
Seat	PTFE + 25% GF
Packing Follower	Vinyl
Grip	



## Available V-port Configurations:

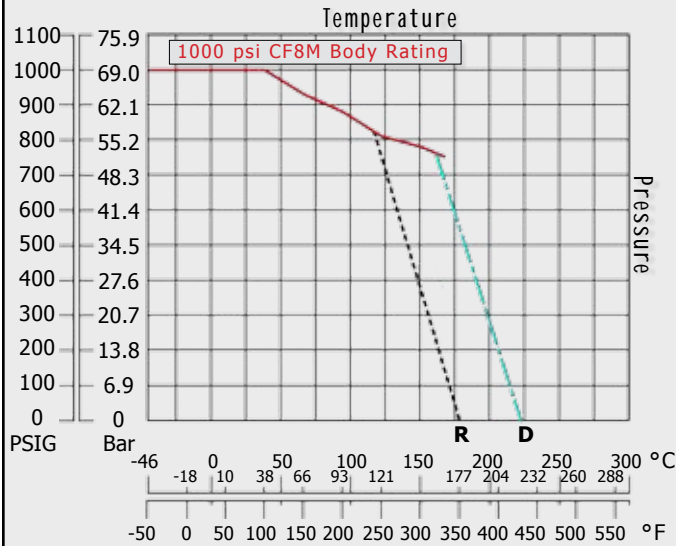


# S3FV SERIES BALL VALVE

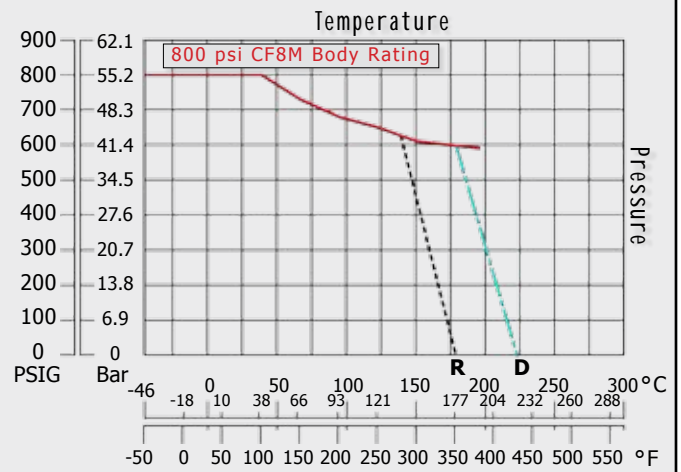


## Pressure - Temperature Chart

1,000 PSI (1/2" to 2") Pressure-Temperature Chart



800 PSI (1/2" to 2") Pressure-Temperature Chart



### Seat Material

**D** = 50% SS Filled PTFE, Standard

**R** = 15% Glass Filled, Special Order C/F

## Cv Versus Valve Opening Percentage

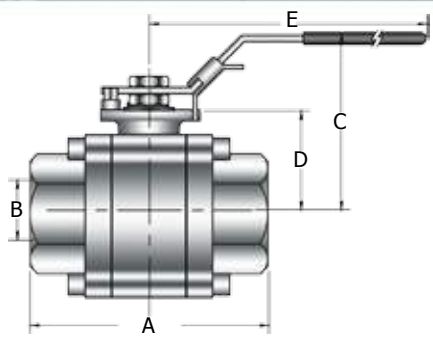
Size	V-Ball Angle	Class VI S/O	Low %	Control Zone									Full Open
				0%	10%	20%	30%	40%	50%	60%	70%	80%	
1/2"	30	0.00	0.04	0.24	0.47	0.77	1.19	1.84	2.46	3.42	4.63	5.57	
	60	0.00	0.04	0.29	0.74	1.11	1.83	2.91	4.31	7.01	9.45	12.79	
	90	0.00	0.06	0.47	0.85	1.27	2.11	3.22	4.77	8.31	11.59	14.72	
3/4"	30	0.00	0.07	0.29	0.63	1.02	1.56	2.44	3.26	4.52	6.12	7.31	
	60	0.00	0.07	0.36	0.94	1.48	2.42	3.86	5.26	9.24	12.43	16.27	
	90	0.00	0.08	0.61	1.10	1.71	2.69	4.27	6.25	10.85	15.30	19.39	
1"	30	0.00	0.09	0.45	1.25	2.07	3.56	5.32	7.69	10.51	12.85	15.49	
	60	0.00	0.10	0.70	1.75	2.77	5.14	8.01	11.89	18.71	23.23	32.81	
	90	0.00	0.11	1.00	2.77	5.10	7.74	12.2	17.32	24.47	26.81	43.88	
1-1/4"	30	0.00	0.05	0.47	1.35	2.49	4.13	6.11	8.81	11.75	14.86	17.36	
	60	0.00	0.07	0.66	2.04	3.42	6.45	10.79	15.41	22.34	33.39	43.43	
	90	0.00	0.08	0.80	2.91	5.52	10.23	17.27	19.51	34.93	51.75	65.82	
1-1/2"	30	0.00	0.07	0.66	1.87	3.40	5.66	8.36	12.14	16.17	20.45	23.88	
	60	0.00	0.09	0.93	2.82	4.70	8.89	14.84	21.16	30.73	45.87	59.75	
	90	0.00	0.10	1.07	4.00	7.45	14.08	23.78	26.77	48.05	71.17	90.50	
2"	30	0.00	0.09	1.19	3.80	7.53	12.27	17.85	26.45	36.46	48.10	55.84	
	60	0.00	0.11	1.53	5.79	10.41	20.58	34.10	48.74	69.05	104.23	135.77	
	90	0.00	0.17	1.90	7.28	13.59	25.37	42.30	55.55	87.04	129.77	167.36	
2-1/2"	30	0.00	0.09	1.16	4.44	7.91	13.40	20.05	30.44	41.92	69.78	76.95	
	60	0.00	0.13	1.46	5.91	11.88	23.24	37.94	59.30	83.30	113.64	162.55	
	90	0.00	0.18	1.86	7.28	16.45	31.15	53.54	77.87	118.29	177.33	239.42	
3"	30	0.00	0.13	1.21	4.16	9.49	15.97	26.78	38.92	53.30	69.78	85.92	
	60	0.00	0.15	2.91	6.73	15.81	29.38	46.34	73.58	106.72	149.89	193.22	
	90	0.00	0.20	4.13	8.66	21.10	41.09	69.31	105.90	161.04	237.24	359.22	
4"	30	0.00	0.16	1.75	7.84	18.61	35.21	58.61	87.88	127.45	158.53	196.34	
	60	0.00	0.26	2.22	12.46	33.68	63.00	106.27	160.48	233.98	329.51	437.40	
	90	0.00	0.35	4.36	19.70	50.31	91.82	157.45	240.50	365.15	546.65	830.90	



# S3F22/C3F22 SERIES BALL VALVE

## Features:

- 3-Piece Stainless or Carbon Steel Ball Valve
- 29Hg-2250psi WOG Cold Non-Shock, 250psi WSP
- Live Loaded Stem 17-4PH Stainless Steel
- Seats, TFM Standard, *See Chart*
- Fire Safe to AP1607-4, Weld in Place Design
- Temperature Determined by Seat Material, *See Chart*
- ASME/ANSI B16-34 Class 600, Meets NACE MR0175
- Federal Spec. WW-V 35C Type
- All Valves Tested to API-598



Connection Options:

Note: weld in place design

Butt Weld End  
Use Suffix "B"

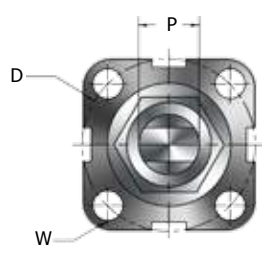
Socket Weld  
Use Suffix "W"

NPT End  
Standard, (no Suffix)

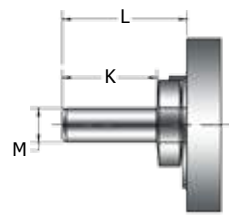
## Dimensions

Part # Stainless	Part # Carbon	NPT	A NPT	A B&W	B	C	D	E	F	G	H	I	J	Cv	Torque in/Lbs.	Wt. Lbs.
S3F22-2	C3F22-2	1/4"	2.72	4.81	0.46	2.69	1.54	6.30	0.30	0.56	0.71	1.02	0.39	18	75	3
S3F22-3	C3F22-3	3/8"	2.72	4.81	0.50	2.69	1.54	6.30	0.42	0.69	0.71	1.02	0.39	18	75	3
S3F22-4	C3F22-4	1/2"	2.91	4.89	0.59	2.69	1.54	6.30	0.55	0.85	0.85	1.24	0.39	18	85	3
S3F22-6	C3F22-6	3/4"	3.38	5.17	0.79	2.85	1.70	6.30	0.74	1.07	1.07	1.52	0.51	42	140	4
S3F22-8	C3F22-8	1"	3.70	5.24	0.98	3.44	2.06	6.89	0.96	1.33	1.34	1.69	0.51	72	190	5
S3F22-10	C3F22-10	1-1/4"	4.09	5.72	1.26	3.57	2.19	6.89	1.28	1.67	0.68	2.17	0.51	124	320	9
S3F22-12	C3F22-12	1-1/2"	4.61	6.19	1.58	4.24	2.65	8.66	1.50	1.91	1.91	2.44	0.51	210	430	12
S3F22-16	C3F22-16	2"	5.20	6.62	1.97	4.49	2.90	8.66	1.94	2.41	2.38	2.95	0.63	350	560	16
S3F22-20	C3F22-20	2-1/2"	7.28	8.78	2.50	6.22	3.39	15.4	2.32	2.91	2.88	3.62	0.98	650	950	32
S3F22-24	C3F22-24	3"	8.70	10.04	3.00	6.54	4.47	15.4	2.90	3.54	3.50	4.18	0.98	950	1200	45

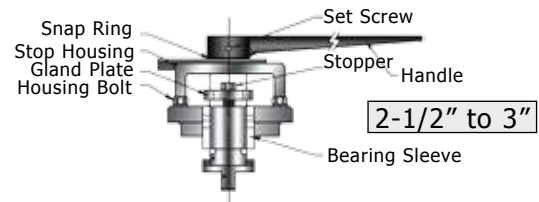
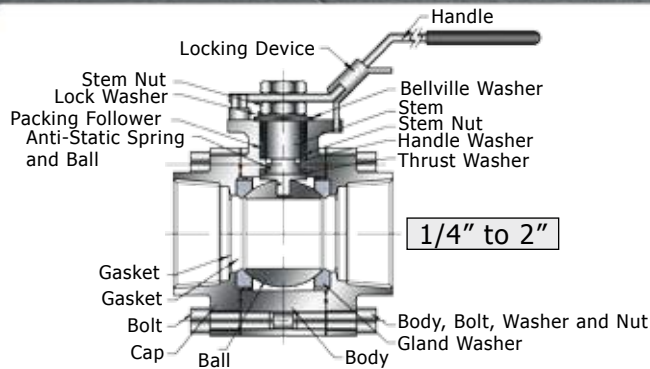
## Mounting Dimensions



NPT	D	K	L	M	P	W (UNC)	ISO 5211
1/4"	1.65	0.28	0.53	0.25	0.47	10-24	F04
3/8"	1.65	0.28	0.53	0.25	0.47	10-24	F04
1/2"	1.65	0.28	0.53	0.25	0.47	10-24	F04
3/4"	1.65	0.28	0.53	0.25	0.47	10-24	F04
1"	1.97	0.44	0.74	0.32	0.55	1/4"-20	F05
1-1/4"	1.97	0.44	0.74	0.32	0.55	1/4"-20	F05
1-1/2"	2.76	0.53	0.88	0.37	0.63	5/16"-18	F07
2"	2.76	0.53	0.88	0.37	0.63	5/16"-18	F07
2-1/2"	4.02	1.75	3.07	0.67	1.10	1/2"-13	F10
3"	4.02	1.75	3.07	0.67	1.10	1/2"-13	F10



# S3F22/C3F22 SERIES BALL VALVE

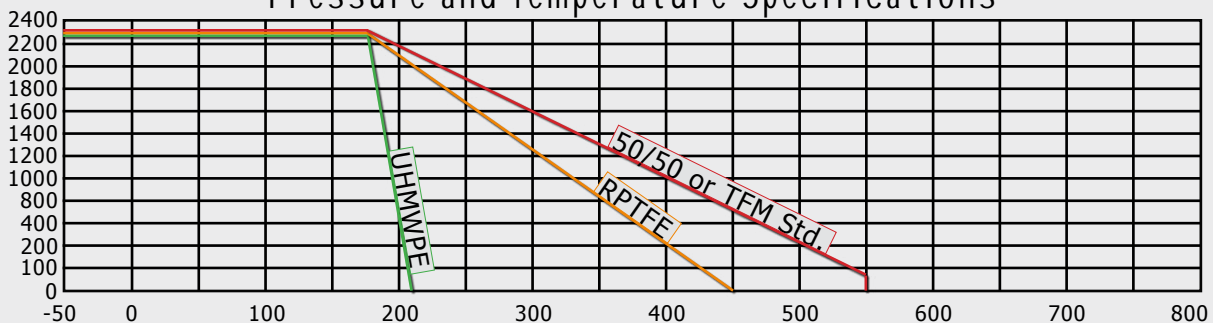


## Bill of Materials

PART	Stainless Steel 1/4" to 2"	Carbon Steel 1/4" to 2"	Stainless Steel 2-1/2" to 3"	Carbon Steel 2-1/2" to 3"
Body	A351 CF8M 316	A216 WCB	A351 CF8M 316	A216 WCB
Cap	A351 CF8M 316 *	A216 WCB	A351 CF8M 316	A216 WCB
Ball	A351 CF8M 316	A351 CF8M	A351 CF8M 316	304 Stainless Steel
Seat	Super-Tek®	Super-Tek	RPTFE	RPTFE
Gasket	TFM	TFM	Super-Tek TFM	Super-Tek TFM
Gasket	Graphite	Graphite	Graphite	Graphite
Bolt	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Stem	17-4 PH	17-4 PH	17-4 PH	17-4 PH
Thrust Bearing	50% SS316 Filled PTFE	50% SS316 Filled PTFE	50% SS316 Filled PTFE	50% SS316 Filled PTFE
Thrust Washer	RPTFE	RPTFE	Super-Tek TFM	Super-Tek TFM
Stem Packing	RPTFE	RPTFE	Super-Tek TFM	Super-Tek TFM
Packing Follower	304 Stainless Steel	304 Stainless Steel	304 Stainless Steel	304 Stainless Steel
Belleville Washer	304 Stainless Steel	304 Stainless Steel	N/A	N/A
Lock Washer	304 Stainless Steel	304 Stainless Steel	N/A	N/A
Stem Nut	304 Stainless Steel	304 Stainless Steel	N/A	N/A
Handle	304 Stainless Steel	304 Stainless Steel	Ductile Iron	Ductile Iron
Stopper	304 Stainless Steel	304 Stainless Steel	N/A	N/A
Handle Sleeve	Vinyl	Vinyl	N/A	N/A
Locking Device	304 Stainless Steel	304 Stainless Steel	N/A	N/A
Anti-Static Spring	301 Stainless Steel	301 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Anti-Static Ball	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Bearing Sleeve	N/A	N/A	Super-Tek TFM	Super-Tek TFM
Gland Plate	N/A	N/A	304 Stainless Steel	304 Stainless Steel
Gland Bolt	N/A	N/A	304 Stainless Steel	304 Stainless Steel
Set Screw	N/A	N/A	304 Stainless Steel	304 Stainless Steel
Stop Housing	N/A	N/A	A351 CF8M	A216 WCB
Snap Ring	N/A	N/A	Nickel Plated CS	Nickel Plated CS
Housing Bolt	N/A	N/A	304 Stainless Steel	304 Stainless Steel

\* Weld End, End Caps are 316L

## Pressure and Temperature Specifications



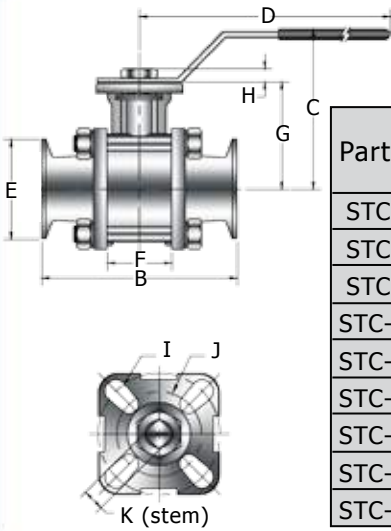


# STC SERIES BALL VALVE



## Features:

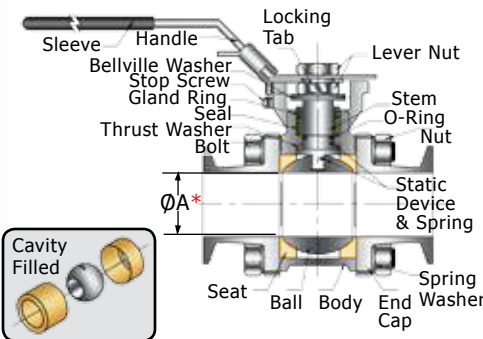
- Stainless Steel Full Port Sanitary Tri-Clamp Ball Valve
- ISO 5211 Mounting Pad w/Latch Lock Handle
- 29" Hg-1000psi WOG, Cold Non-Shock
- 316 Stainless Steel Ball+Stem, CF8M S.S. Body
- Blow Out Proof Stem
- Cavity Filled Teflon Seats Std., Cavity Fillers are Virgin PTFE-meets CFR21 (Non-Cavity Filled Seats Optional)
- Temperature 0°F to 400°F
- Complies with FDA, USDA and 3A



## Dimensions

Part #	NPT	ØA*	B	C	D	E	F	G	H	I	J	K in/mm	ISO 5211	Break Torque ft/Lbs.		WT. Lbs.
														non cavity filled	cavity filled	
STC-4	1/2"	0.37	3.50	2.79	4.33	1.00	0.99	1.67	0.32	1.65	1.42	0.35/9	F03/F04	75	80	1.67
STC-6	3/4"	0.63	4.00	2.89	4.33	1.00	1.09	1.76	0.32	1.65	1.42	0.35/9	F03/F04	85	90	1.91
STC-8	1"	0.87	4.50	3.31	5.32	1.98	1.30	2.13	0.39	1.97	1.65	0.43/11	F04/F05	130	180	3.17
STC-12	1-1/2"	1.37	5.50	4.31	6.50	1.98	1.94	2.89	0.58	2.76	1.97	0.55/14	F05/F07	204	410	7.24
STC-16	2"	1.87	6.25	4.68	6.50	2.52	2.50	3.26	0.58	2.76	1.97	0.55/14	F05/F07	370	460	10.10
STC-20	2-1/2"	2.37	7.00	5.25	9.06	3.05	2.76	4.21	0.67	4.02	2.76	0.67/17	F07/F10	610	980	21.80
STC-24	3"	2.88	9.00	6.30	11.81	3.58	4.02	4.62	0.67	4.02	2.76	0.67/17	F07/F10	760	1050	29.00
STC-32	4"	3.84	9.50	6.90	11.81	8.90	4.02	5.21	0.67	4.02	2.76	0.67/17	F07/F10	1315	1420	46.50
STC-48	6"	5.78	15.50	8.51	19.68	6.57	7.42	8.50	1.06	4.92	4.02	1.06/27	F10/F12	C/F	C/F	C/F

## Bill of Materials



PART	Material	PART	Material
Body	316 Stainless Steel/ CF8M	Locking Tab	304 Stainless Steel
End Caps		Handle	
Seats	PTFE	O-Ring	Viton®
Ball	316 Stainless Steel	Bolts	304 Stainless Steel
Stem		Bolt Nuts	
Thrust Washer	PTFE	Spring Washer	
Seal		Stop Screw	
Gland Ring	304 Stainless Steel	Handle Sleeve	Vinyl
Bellville Washer	301 Stainless Steel	Static Device	316 Stainless Steel
Lever Nut	304 Stainless Steel	Spring	

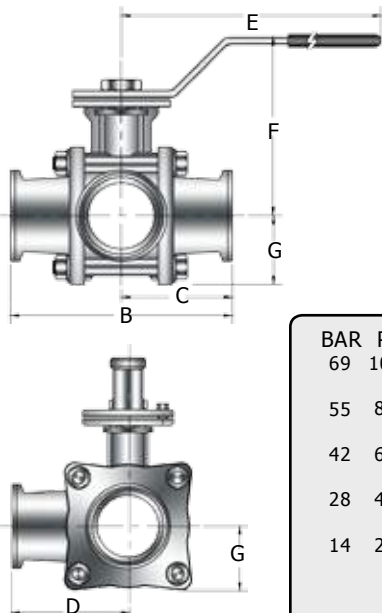


# STC-TT & TL SERIES BALL VALVE



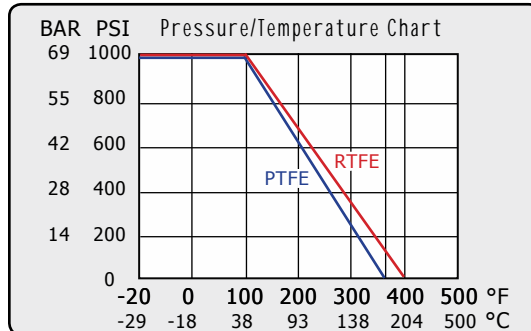
## Features:

- Stainless Steel 3-Way Sanitary Tri-Clamp Ball Valve
- ISO 5211 Mounting Pad w/Latch Lock Handle
- 316 Stainless Steel Ball & Stem, CF8M S.S. Body
- Blow Out Proof Stem
- Cavity Filled Teflon Seats Std. (Non-Cavity Filled Seats Optional)
- Complies with FDA, USDA 3A (Cavity Filled Only)



## Dimensions

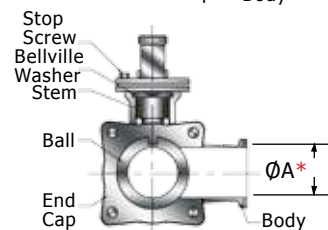
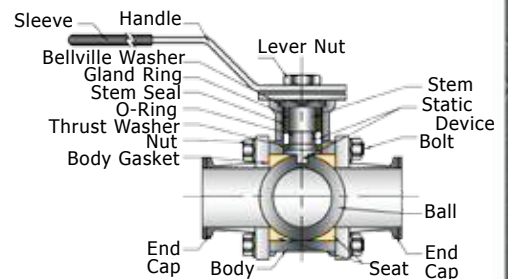
Part #	NPT	ØA*	B	C	D	E	F	G	ISO 5211	Stem (mm)	Lbs
STC-8T*	1"	1.13	4.50	2.25	2.23	7.28	3.62	1.12	F04/05	11	3.5
STC-12T*	1-1/2"	1.37	5.50	2.75	2.44	8.66	4.41	1.53	F05/07	14	6
STC-16T*	2"	1.87	6.25	3.13	3.13	8.66	4.76	1.82	F07/10	14	9.5
STC-24T*	3"	2.88	9.00	4.50	4.50	13.78	6.63	2.91	F07/10	17	29
STC-32T*	4"	3.83	9.50	4.75	4.75	13.78	7.22	3.46	F10/012	17	44



**NOTE:**  
For Suffix \* use "T" (T-Port) or "L" (L-Port)  
Example:  
STC-16TT = 2" T-Port  
STC-8TL = 1" L-Port

## Bill of Materials

PART	Material	PART	Material
Body	CF8M/	Lever Nut	304 Stainless Steel
End Cap	316 Stainless Steel	Locking Tab	304 Stainless Steel
Seat	PTFE	Handle	Vinyl
Ball	316 Stainless Steel	Handle Sleeve	Vinyl
Stem	316 Stainless Steel	Stop Screw	304 Stainless Steel
Thrust Washer	PTFE	Bolt	304 Stainless Steel
Stem Seal	PTFE	Bolt Nut	304 Stainless Steel
Gland Ring	304 Stainless Steel	Lock Washer	316 Stainless Steel
O-Ring	Viton®	Static Device	316 Stainless Steel
Bellville Washer	301 Stainless Steel	Body Gasket	PTFE





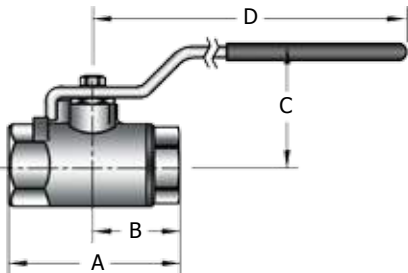
# SHM SERIES BALL VALVE

MSS SP-110 Compliant

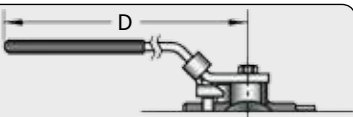


## Features:

- CF8M Stainless Steel Ball Valve
- 29" Hg-2000psi WOG (1/4" to 1")
- 29" Hg-1500psi WOG (1-1/4" to 2")
- 29" Hg-1000psi WOG (2-1/2" to 3")
- 150psi Saturated Steam
- RPTFE Seats and PTFE Seals
- Blowout Proof Stem with Adjustable Packing
- Temperature -35°F to 400°F



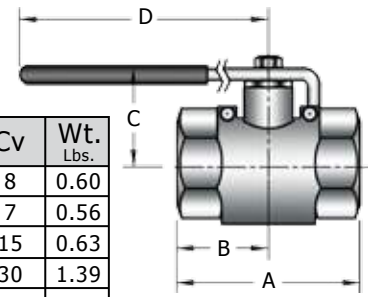
1/4" to 2"



**Note:**  
Locking Handle Option available  
Locking Handle Orientated 180° from Non-Locking Handle.

## Dimensions

Part#	NPT	A	B	C	D	Cv	Wt. Lbs.
SHM-2	1/4"	2.05	1.02	1.71	3.85	8	0.60
SHM-3	3/8"	2.05	1.02	1.71	3.85	7	0.56
SHM-4	1/2"	2.23	1.12	1.79	3.85	15	0.63
SHM-6	3/4"	2.96	1.47	2.03	4.75	30	1.39
SHM-8	1"	3.34	1.67	2.16	4.75	43	1.72
SHM-10	1-1/4"	4.00	2.00	2.68	5.40	48	3.10
SHM-12	1-1/2"	4.34	2.17	3.25	7.75	84	4.20
SHM-16	2"	5.43	2.69	3.24	7.75	108	6.10
SHM-20	2-1/2"	6.75	3.38	4.03	7.75	190	15.6
SHM-24	3"	6.75	3.38	4.03	7.75	370	16.5



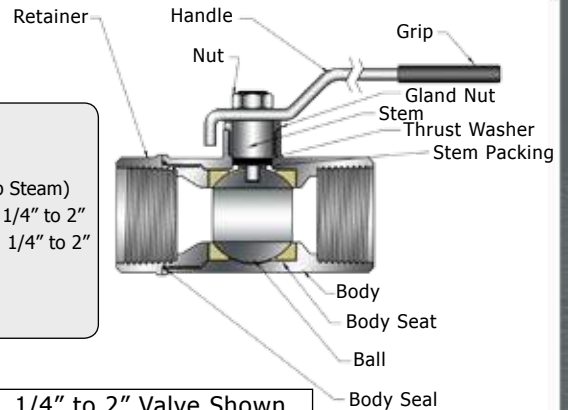
2-1/2" to 3"

## Bill of Materials

PART	Material
Body	A351-CF8M Stainless Steel
Retainer	
Stem Bearing	RPTFE
Seat	
Body Seal	PTFE
Gland Nut	
Stem	A276-316 Stainless Steel
Ball	
Stem Packing	MPTFE
Handle	304 Stainless Steel
Nut	18-8 Stainless Steel
Grip	Vinyl

### Suffix Options:

- LL = Latch Lock Handle
- HT = High Temp Option (250lb Steam)
- BSPP = BSPP threads, parallel, 1/4" to 2"
- BSPT = BSPT threads, tapered, 1/4" to 2"
- OX = Oxygen Cleaned
- DMC = Spring Return Closed
- DMO = Spring Return Open



1/4" to 2" Valve Shown  
2-1/2"-3" Valves Similar

# SHM-T SERIES BALL VALVE



## Features:

- CF8M Stainless Steel 3-Way L-Port Diverter Valve
- 29" Hg-800psi WOG, Cold Non-Shock
- 150psi Saturated Steam
- CF8M Body, 316 Stainless Ball and Stem
- Blowout Proof Stem w/Adjustable Stem Packing
- RPTFE Seats and PTFE Seals
- Meets NACE MR0175 (2000) & MR0103 (2012)
- Temperature -35°F to 400°F

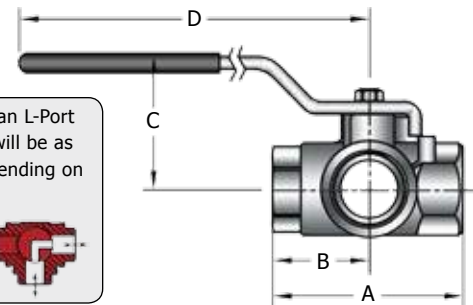
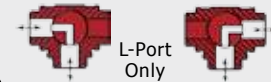
## Dimensions

Part#	NPT	A	B	C	D	Cv	Wt Lbs.
SHM-2T	1/4"	2.32	1.12	1.80	3.88	2	0.70
SHM-3T	3/8"	2.32	1.12	1.80	3.88	4	0.68
SHM-4T	1/2"	2.32	1.12	1.80	3.88	5	0.75
SHM-6T	3/4"	2.97	1.47	2.06	4.78	12	1.45
SHM-8T	1"	3.20	1.60	2.15	4.78	14	1.86
SHM-12T	1-1/2"	4.38	1.99	3.03	5.43	34	4.67
SHM-16T	2"	5.45	2.75	3.22	5.43	47	7.02

### Suffix Options:

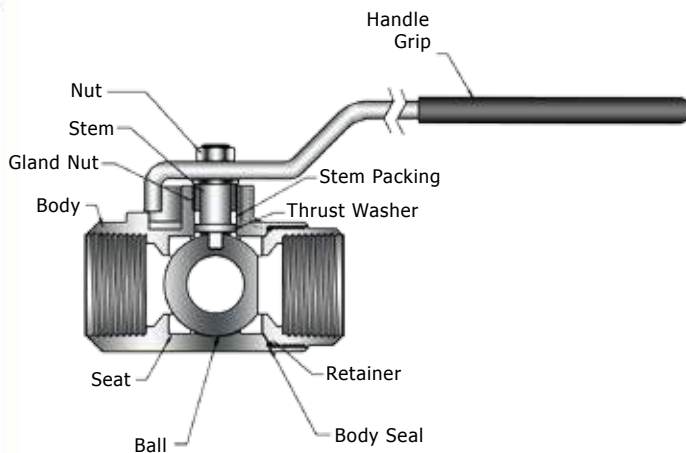
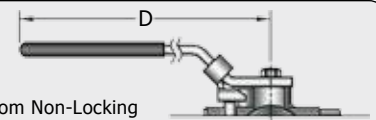
- LL = Latch Lock Handle
- HT = High Temp Option (250Lb Steam)
- BSPP = BSPP threads, parallel, 1/4" to 2"
- BSPT = BSPT threads, tapered, 1/4" to 2"
- OX = Oxygen Cleaned

SHM-T Valves are in an L-Port Configuration. Flow will be as Depicted Below, Depending on Lever Position



### Note:

Locking Handle Option available  
Locking Handle Orientated 180° from Non-Locking Handle. Locking handle Part Number Denotation SHM-\*\*\*TLL



## Bill of Materials

PART	Material
Lever	304 Stainless Steel
Grip	Vinyl
Stem Packing	MPTFE
Stem Bearing	RPTFE
Ball	A276-316 Stainless Steel
Seat	RPTFE
Retainer	A276-316 SS 1/4"-1"/A351-CF8M 1-1/2"-2"
Gland Nut	A276-316 Stainless Steel
Stem	A276-316 Stainless Steel
Lever Nut	18-8 Stainless Steel
Body Seal	PTFE
Body	A351-CF8M Stainless Steel

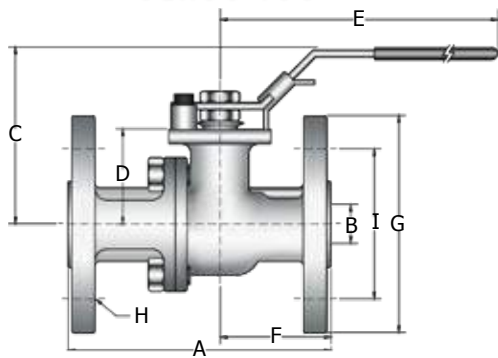


# F150/F300 ANSI CLASS FLANGE VALVE

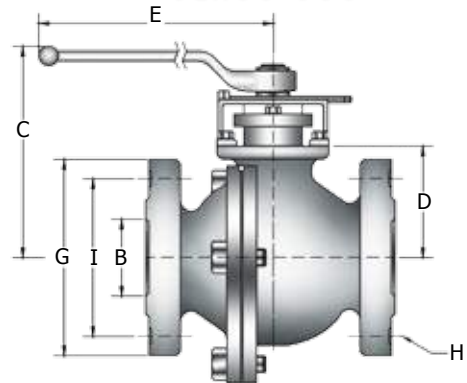


- ### Features:
- Full Port Split Body ANSI Class 150 & 300
  - Class 150 29"Hg-285psi, Cold Non-Shock
  - Class 300 29"Hg-740psi, Cold Non-Shock
  - Live Loaded Stem Design, Anti-Static Device
  - Standard Locking Device
  - Blowout Proof Stem with Adjustable Packing
  - Temperature -20°F to 400°F
  - Fire Safe Approved API 607-5
  - Available with Optional Seats and V-Ball Option C/F

Class 150



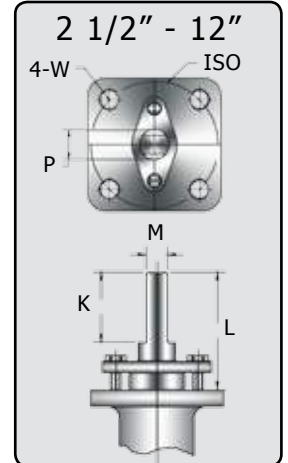
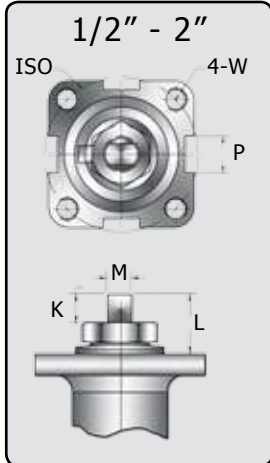
Class 300



## Dimensions

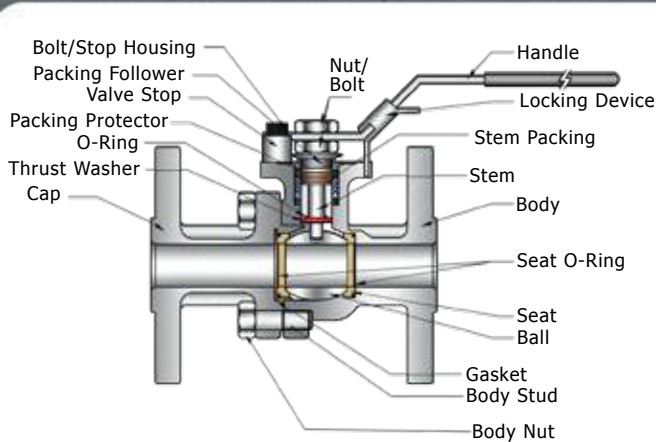
PART# Carbon	PART# Stainless	NPT	A	B	C	D	E	F	G	H Qty x Dia.	I	Cv	Torque in/Lbs	Wt. Lbs
C2FF150-4	S2FF150-4	1/2"	4.25	0.59	2.60	1.54	6.50	1.79	3.50	4 x 0.62	2.38	17	62	4
C2FF300-4	S2FF300-4		5.50						3.75	4 x 0.62	2.62	15	65	5
C2FF150-6	S2FF150-6	3/4"	4.62	0.79	2.91	1.70	6.50	2.01	3.88	4 x 0.62	2.75	43	90	5
C2FF300-6	S2FF300-6		6.00						4.62	4 x 0.75	3.25	40	95	7
C2FF150-8	S2FF150-8	1"	5.00	0.98	3.43	2.06	7.87	2.05	4.25	4 x 0.62	3.12	74	100	7.5
C2FF300-8	S2FF300-8		6.50						4.88	4 x 0.75	3.50	70	105	10
C2FF150-10	S2FF150-10	1-1/4"	5.50	1.26	3.62	2.35	7.87	2.45	4.62	4 x 0.62	3.50	192	240	13.5
C2FF300-10	S2FF300-10		7.00						5.25	4 x 0.75	3.88	189	252	C/F
C2FF150-12	S2FF150-12	1-1/2"	6.50	1.50	4.13	2.65	9.84	2.76	5.00	4 x 0.62	3.88	290	270	14.5
C2FF300-12	S2FF300-12		7.50						6.12	4 x 0.88	4.50	300	284	19
C2FF150-16	S2FF150-16	2"	7.00	1.97	4.53	2.90	10.4	3.07	6.00	4 x 0.62	4.75	410	360	21
C2FF300-16	S2FF300-16		8.50						6.50	8 x 0.75	5.00	430	378	25
C2FF150-20	S2FF150-20	2-1/2"	7.50	2.56	6.22	3.39	15.4	3.08	7.00	4 x 0.75	5.50	780	620	33.5
C2FF300-20	S2FF300-20		9.50						7.50	8 x 0.88	5.88	768	651	42
C2FF150-24	S2FF150-24	3"	8.00	3.00	6.54	3.67	15.4	3.74	7.50	4 x 0.75	6.00	1120	800	42.5
C2FF300-24	S2FF300-24		11.12						8.25	8 x 0.88	6.62	1090	840	60
C2FF150-32	S2FF150-32	4"	9.00	4.00	7.20	4.40	15.4	4.47	9.00	8 x 0.75	7.50	1825	1700	62
C2FF300-32	S2FF300-32		12.00						10.00	8 x 0.88	7.88	1900	1785	93
S2FF150-48	S2FF150-48	6"	15.50	5.98	11.2	7.20	25.6	7.62	11.00	8 x 0.88	9.50	4700	4600	165
C2FF150-48	S2FF300-48		15.88						12.50	12 x 0.88	10.62	4800	4830	221
S2FF150-64	S2FF150-64	8"	18.00	7.87	11.6	7.60	37.4	8.35	13.50	8 x 0.88	11.75	10100	9900	262
C2FF150-64	S2FF300-64		19.75						15.00	12 x 1.00	13.00	10000	10395	371
C2FF150-80	S2FF150-80	10"	21.00	9.84	14.4	9.88	38.0	10.5	16.00	12 x 1.00	14.25	17500	17000	468
C2FF300-80	S2FF300-80		22.38						17.50	16 x 1.12	15.25	17350	17850	576
C2FF150-96	S2FF150-96	12"	24.00	11.8	16.1	11.5	38.0	12.0	19.00	12 x 1.00	17.00	22400	23000	714
C2FF300-96	S2FF300-96		25.50						20.50	16 x 1.25	17.75	21700	24150	C/F

# F150/F300 ANSI CLASS FLANGE VALVE

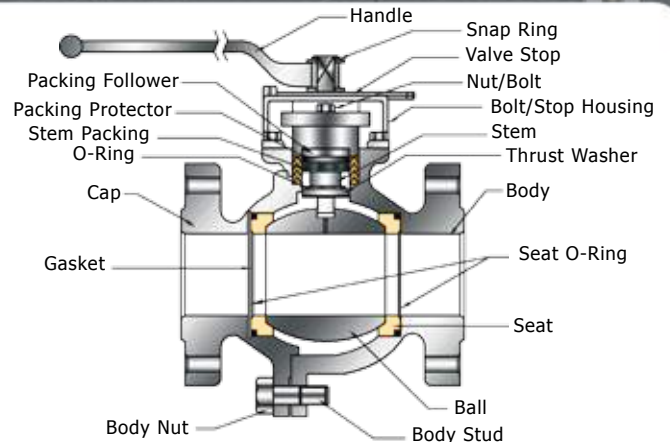


## Valve Mounting Dimensions:

Size	K	L	M	P	W <sub>(unc)</sub>	ISO
1/2" - 3/4"	0.32	0.57	0.250	0.37	10-24	F04
1" - 1 1/4"	0.43	0.75	0.315	0.43	1/4"-20	F05
1 1/2" - 2"	0.55	0.93	0.374	0.62	5/16"-18	F07
2 1/2" - 4"	1.75	3.07	0.669	1.10	1/2"-13	F10
6" - 12"	Consult Factory					



Class 150



Class 300

## Bill of Materials

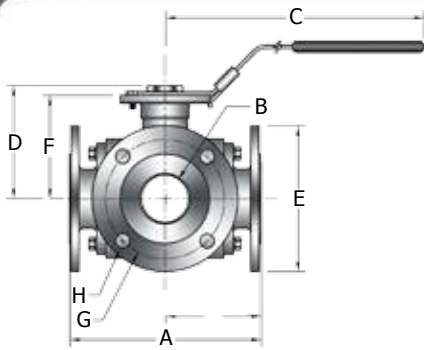
PART	Stainless Steel	Carbon Steel
Body	ASTM A351 CF8M	ASTM A216 WCB
Cap	ASTM A351 CF8M	ASTM A216 WCB
Stem	316 Stainless Steel	316+304 Stainless Steel
Packing Follower	304 Stainless Steel	304 Stainless Steel
Ball	316 Stainless Steel	316+304 Stainless Steel
Seat	TFM	TFM
gasket	RPTFE/Graphite	RPTFE/Graphite
Stem Packing	TFM/Graphite	TFM/Graphite
Packing Protector	50%PTFE+316 Stainless Steel	50%PTFE+316 Stainless Steel
Thrust Washer	25% Carbon+TFM	25% Carbon+TFM
Valve Stop	304 Stainless Steel	304 Stainless Steel
Handle	304 Stainless Steel	304 Stainless Steel
Locking Device/Snap Ring	304 Stainless Steel	304 Stainless Steel
Nut/Bolt	304 Stainless Steel	304 Stainless Steel
Body Stud	ASTM A193 B8	ASTM A193 B7
Body Nut	ASTM A194 Gr.8	ASTM A194 2H
Bolt/Stop Housing	304 Stainless Steel	304 Stainless Steel
O-Ring	Viton®	Viton®
Seat O-Ring	Viton®	Viton®



# S2FF150/C2FF150-TT & TL SERIES BALL VALVE

## Features:

- Full Port 3-Way ANSI Class 150 Flange Valve
- Available in "T" and "L" Port
- Live Loaded Stem Design, Anti-Static Device
- One Piece Ball/Stem Trunnion-Support Type
- Blowout Proof Stem with Adjustable Stem Packing
- 3 Seat Design Maintains Proper Ball Position
- Available with Optional Seats



## Dimensions

PART#	Size	A	B	C	D	E	F	G	H	Cv		Torque in/Lbs	Wt. Lbs
										90°	180°		
*2FF150-6T*	3/4"	6.65	0.75	7.48	3.16	3.88	2.62	2.75	0.63 x 4	16	40	250	12
*2FF150-8T*	1"	7.30	1.00	8.38	3.28	4.25	2.66	3.12	0.63 x 4	30	70	385	16
*2FF150-10T*	1-1/2"	7.17	1.50	15.00	4.10	5.00	2.48	3.88	0.63 x 4	50	230	480	20
*2FF150-12T*	2"	8.66	2.01	15.00	4.92	5.99	2.87	4.75	0.75 x 4	100	390	700	36
*2FF150-16T*	3"	11.26	3.00	15.00	6.68	7.52	3.62	6.00	0.75 x 4	240	930	1600	72
*2FF150-32T*	4"	13.66	4.02	2.00	8.03	9.01	4.88	7.50	0.75 x 8	400	1650	2800	128
*2FF150-48T*	6"	16.77	5.98	C/F	10.04	11.00	6.50	9.50	0.90 x 8	970	5000	8600	250
*2FF150-64T*	8"	20.94	7.95	C/F	11.54	13.50	7.60	11.75	0.90 x 8	1850	9000	15500	450
*2FF150-80T*	10"	27.56	9.84	C/F	13.00	16.00	9.06	14.25	1.02 x 12	3500	16000	C/F	850
*2FF150-96T*	12"	29.92	11.77	C/F	14.55	18.99	10.97	17.18	1.26 x 12	C/F	C/F	C/F	C/F

### Ordering Information

\*2FF150-\*T\*

S= Stainless  
C= Carbon

Size of  
Port

T= T-Port  
L= L-Port

### Handle Configuration

3/4" to 1-1/2"

Lever

Grip  
Stem Packing  
End  
Connector

Gland  
Ring

Body Nut  
Body Stud  
Seat  
Ball

End Gasket  
Body  
Thrust  
Bearing

### Handle Configuration

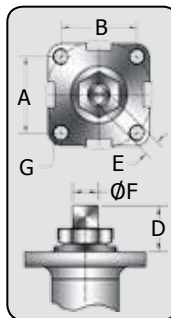
2" to 12"

Snap Ring

Port Sign and  
Sign Nut  
Gland Bolt  
Gland  
Housing Bolt  
Cover  
Cover Stud  
(not shown)

Travel Stop  
Stop Housing  
Cover Nut  
Cover  
Gasket

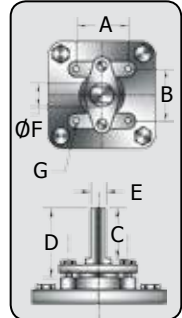
### 3/4" to 1-1/2"



## Mounting Dimensions

Size	A	B	C	D	E	ØF	G
3/4"	1.95	1.95	0.47	0.49	0.354	0.46	0.33
1"	1.95	1.95	0.47	0.53	0.433	0.55	0.28
1-1/2"	1.95	1.95	0.63	0.73	0.551	0.61	0.36
2"	1.89	2.83	1.57	1.93	0.669	0.87	5/16-18
3"	1.89	3.50	1.97	3.15	0.669	1.16	1/2-13
4"	3.50	3.50	2.44	3.15	0.906	1.34	1/2-13
6"	3.50	3.50	2.36	3.54	1.378	1.77	1/2-13
8"	4.53	4.53	2.36	3.27	1.772	2.36	5/8-11
10"	4.53	4.53	2.76	4.29	1.772	2.36	5/8-11
12"	4.53	4.53	2.76	4.33	2.165	2.76	5/8-11

### 2" to 12"



## Bill of Materials

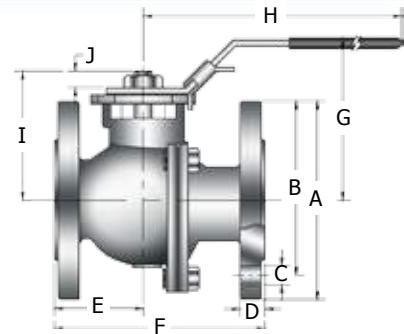
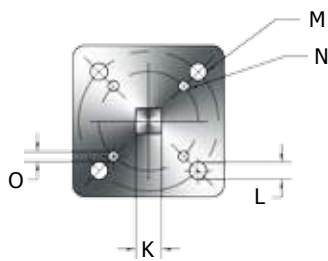
PART	Stainless Steel	Carbon Steel	PART	Stainless Steel	Carbon Steel
Body + Cover	A351 GR CF8M	A216 GR WCB	Gland Bolt	B8	B7
End Connection			Stop Housing	A351 GR CF8M	Carbon Steel
Ball	316 Stainless Steel	316 Stainless Steel	Lever	Ductile Iron	Ductile Iron
Gland			Port Sign		
Gland Ring			Sign Nut	A167 Type 304	A167 Type 304
Cover Nut	A167 Type 304	Carbon Steel	Grip	Vinyl	Vinyl
Travel Stop			Seat		
Body Nut			Stem Packing	TFM Super-Tek	TFM Super-Tek
Cover Stud			End Gasket		
Housing Bolt	B8	B7	Cover Gasket	50/50	50/50
Body Stud			Thrust Bearing		

# C2FF150DM/S2FF150DM SERIES BALL VALVE



## Features:

- Full Port ANSI Class 150 Flange Valve
- ISO 5211 Mounting Pad w/Locking Handle Std.
- Available in Carbon and Stainless Steel
- Blow-Out Proof Stem, Grounded Ball & Stem Std.
- Fire Safe Certified to API607, 6th Edition
- Designed to ANSI B16.5, B16.10, B16.34
- Complies with NACE MR 0175/ISO 15156 and NACE MR 0103

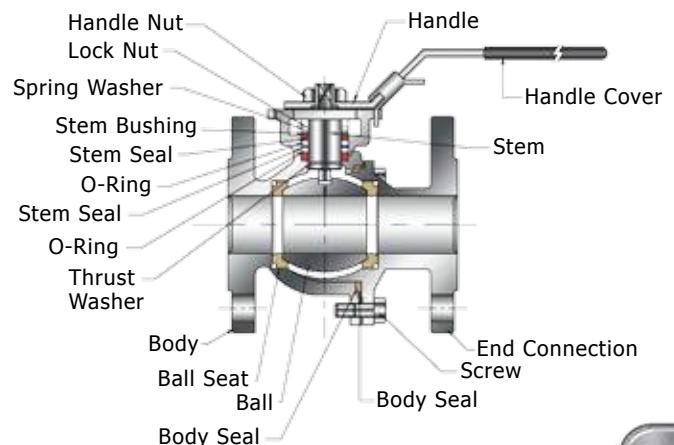


## Dimensions

Part # Stainless Steel	Part # Carbon Steel	NPT	A	B	C	D	E	F	G	H	I	J	K (in/mm)	L	M	N	O	Cv	Torq in/Lbs	Lbs
S2FF150DM-8	C2FF150DM-8	1"	4.33	3.13	.63x4	.057	2.13	5.00	3.66	6.30	2.72	0.43	0.35/9	0.28	F05	-	-	50	89	8.38
S2FF150DM-12	C2FF150DM-12	1-1/2"	5.12	3.88	.63x4	0.69	2.99	6.50	4.65	9.45	3.70	0.55	0.43/11	0.33	F07	F05	M6	267	195	15.4
S2FF150DM-16	C2FF150DM-16	2"	5.91	4.04	.75x4	0.77	3.33	7.01	5.00	9.45	4.06	0.53	0.43/11	0.33	F07	F05	M6	308	372	21.2
S2FF150DM-24	C2FF150DM-24	3"	7.48	6.00	.75x4	0.94	3.66	7.99	6.38	12.60	5.41	0.69	0.55/14	0.43	F10	F07	M10	1015	796	39.5
S2FF150DM-32	C2FF150DM-32	4"	9.06	7.50	.75x8	0.94	3.92	9.02	6.97	14.96	6.04	0.75	0.67/17	0.43	F10	F07	M10	1616	841	53.6

## Bill of Materials

PART	Material Stainless Steel	Material Carbon Steel
Body	A351 CF8M	A216 WCB
End Connection	A352 CF8M	A216 WCB
Ball	A216-316/A351-CF8M	A216-316/A351-CF8M
Ball Seat	PTFE	PTFE
Screw	Stainless Steel	Carbon Steel
Body Seal	Graphoil	Graphoil
Body Seal	PTFE	PTFE
Stem	A276-316	A276-304
Screw	Stainless Steel	Carbon Steel
Handle Nut	Stainless Steel	Carbon Steel
Lock Nut	Stainless Steel	Carbon Steel
Spring Washer	Stainless Steel	Carbon Steel
Stem Bushing	A276-316	A276-316
Stem Seal	Graphoil	Graphoil
O-Ring	FKM-Viton®	FKM-Viton®
Stem Seal	PTFE	PTFE
O-Ring	FKM-Viton®	FKM-Viton®
Thrust Washer	PTFE	PTFE
Handle	Stainless Steel	Stainless Steel





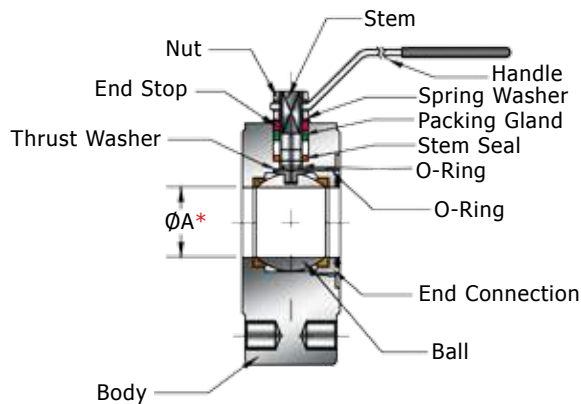
## CWFF150/SWFF150 SERIES BALL VALVE



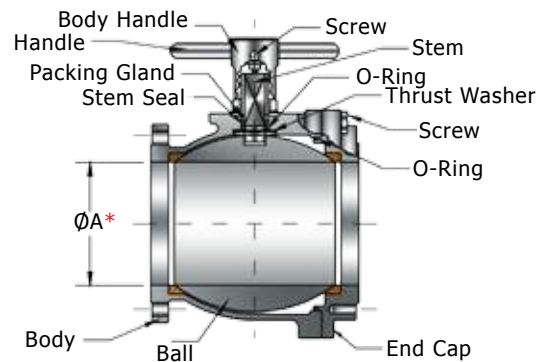
### Features:

- Full Port Wafer ANSI Class 150 & 300
- Class 150 29"Hg-285psi, Cold Non-Shock
- Class 300 29"Hg-740psi, Cold Non-Shock
- Stainless Steel Ball and Stem
- Blowout Proof Stem with Adjustable Packing
- Temperature -4°F to 366°F

### Class 150



### Class 300

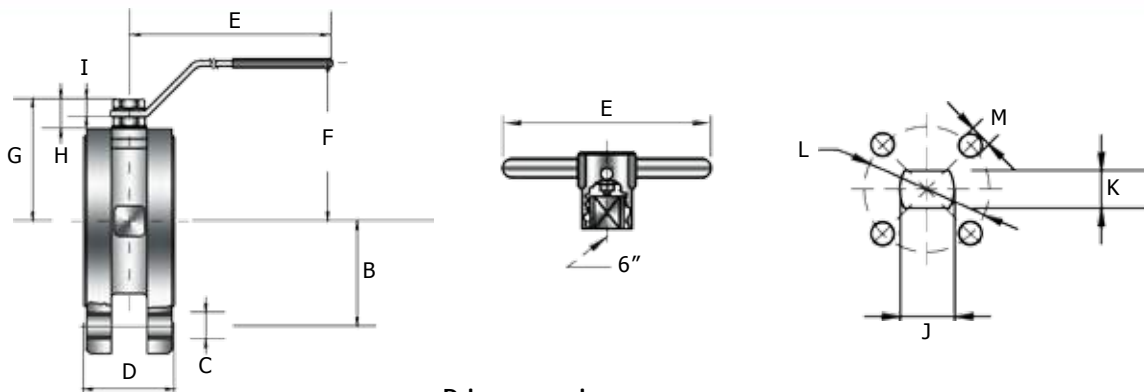


### Bill of Materials

PART	Stainless Steel	Carbon Steel
Body	A479-316/A351-CF8M	ASTM A105
End Connection	A479-316/A351-CF8M	ASTM A105
Ball	AISI 316-CF8M	AISI 304
Ball Seats	RPTFE	RPTFE
O-Ring	FKM (Viton®)	FKM (Viton®)
Thrust Washer	PTFE	PTFE
O-Ring	FKM (Viton®)	FKM (Viton®)
Stem Seal	PTFE	PTFE
Packing Gland	Steel	Steel
End Stop	Steel	Steel
Spring Washer	Steel	Steel
Nut	Steel	Steel
Stem	A182-F316 (150)/AISI 316 (300)	AISI 304
Handle	Steel	Steel
Handle (6"-8")	Steel	Steel
Screw	Steel	Steel
Screw	Steel	Steel
Body Handle (6"-8")	Cast Iron	Cast Iron



# CWFF300/SWFF300 SERIES BALL VALVE



## Dimensions

PART#	ANSI Class	Version	NPT	ØA*	B	C UNC	D	E	F	G	H	I	J	K	L	M	Cv	Lbs
SWFF150-4	150	Stainless	1/2"	0.59	3.50	4x1/2"	1.37	5.17	2.53	1.85	0.61	0.35	0.39	0.27	F03	4xM5	18.90	2.86
CWFF150-4		Carbon		0.59	3.50	4x1/2"	1.37	5.17	2.53	1.85	0.61	0.35	0.39	0.27	F03	4xM5	18.90	2.86
SWFF300-4	300	Stainless	1/2"	0.59	3.75	4x1/2"	1.38	5.17	2.54	1.85	0.45	0.33	0.39	0.28	F03	4xM5	18.90	3.10
CWFF300-4		Carbon		0.59	3.75	4x1/2"	1.38	5.17	2.54	1.85	0.45	0.33	0.39	0.28	F03	4xM5	18.90	3.10
SWFF150-6	150	Stainless	3/4"	0.78	3.88	4x1/2"	1.57	5.17	2.71	2.02	0.61	0.35	0.39	0.27	F03	4xM5	34.22	3.96
CWFF150-6		Carbon		0.78	3.88	4x1/2"	1.57	5.17	2.71	2.02	0.61	0.35	0.39	0.27	F03	4xM5	34.22	3.96
SWFF300-6	300	Stainless	3/4"	0.78	4.62	4x5/8"	1.57	5.17	2.71	2.03	0.37	0.33	0.39	0.28	F03	4xM5	34.22	5.50
CWFF300-6		Carbon		0.78	4.62	4x5/8"	1.57	5.17	2.71	2.03	0.37	0.33	0.39	0.28	F03	4xM5	34.22	5.50
SWFF150-8	150	Stainless	1"	0.98	4.25	4x1/2"	1.81	6.87	3.16	2.40	0.76	0.45	0.47	0.31	F04	4xM5	49.88	5.95
CWFF150-8		Carbon		0.98	4.25	4x1/2"	1.81	6.87	3.16	2.40	0.76	0.45	0.47	0.31	F04	4xM5	49.88	5.95
SWFF300-8	300	Stainless	1"	0.98	4.88	4x5/8"	1.81	6.87	3.17	2.40	0.51	0.45	0.47	0.32	F04	4xM5	49.88	6.80
CWFF300-8		Carbon		0.98	4.88	4x5/8"	1.81	6.87	3.17	2.40	0.51	0.45	0.47	0.32	F04	4xM5	49.88	6.80
SWFF150-10	150	Stainless	1-1/4"	1.26	4.62	4x1/2"	2.12	6.87	3.32	2.53	0.64	0.45	0.47	0.31	F04	4xM5	103.24	9.47
CWFF150-10		Carbon		1.26	4.62	4x1/2"	2.12	6.87	3.32	2.53	0.64	0.45	0.47	0.31	F04	4xM5	103.24	9.47
SWFF300-10	300	Stainless	1-1/4"	1.26	5.25	4x5/8"	2.12	6.87	3.33	2.54	0.65	0.45	0.47	0.32	F04	4xM5	103.24	9.30
CWFF300-10		Carbon		1.26	5.25	4x5/8"	2.12	6.87	3.33	2.54	0.35	0.45	0.47	0.32	F04	4xM5	103.24	9.30
SWFF150-12	150	Stainless	1-1/2"	1.57	5.00	4x1/2"	2.50	9.86	4.03	3.07	0.96	0.51	0.62	0.39	F05	4xM6	266.80	7.27
CWFF150-12		Carbon		1.57	5.00	4x1/2"	2.50	9.86	4.03	3.07	0.96	0.51	0.62	0.39	F05	4xM6	266.80	11.31
SWFF300-12	300	Stainless	1-1/2"	1.57	6.12	4x3/4"	2.50	9.86	4.03	3.07	0.80	0.47	0.62	0.39	F05	4xM6	266.80	15.00
CWFF300-12		Carbon		1.57	6.12	4x3/4"	2.50	9.86	4.03	3.07	0.80	0.47	0.62	0.39	F05	4xM6	266.80	15.00
SWFF150-16	150	Stainless	2"	1.97	6.00	4x5/8"	3.22	9.86	4.37	3.42	0.98	0.53	0.62	0.39	F05	4xM6	307.40	12.12
CWFF150-16		Carbon		1.97	6.00	4x5/8"	3.22	9.86	4.37	3.42	0.98	0.53	0.62	0.39	F05	4xM6	307.40	19.18
SWFF300-16	300	Stainless	2"	1.97	6.50	8x5/8"	3.23	9.86	4.43	3.43	0.63	0.47	0.62	0.39	F05	4xM6	307.40	23.00
CWFF300-16		Carbon		1.97	6.50	8x5/8"	3.23	9.86	4.43	3.43	0.63	0.47	0.62	0.39	F05	4xM6	307.40	23.00
SWFF150-20	150	Stainless	2-1/2"	2.52	7.00	4x5/8"	4.05	12.65	5.03	4.11	1.10	0.70	0.78	0.55	F07	4xM8	626.40	21.16
CWFF150-20		Carbon		2.52	7.00	4x5/8"	4.05	12.65	5.03	4.11	1.10	0.70	0.78	0.55	F07	4xM8	626.40	34.17
SWFF300-20	300	Stainless	2-1/2"	2.52	7.50	8x3/4"	4.05	12.66	5.08	4.11	0.73	0.67	0.78	0.55	F07	4xM8	626.40	39.00
CWFF300-20		Carbon		2.52	7.50	8x3/4"	4.05	12.66	5.08	4.11	0.73	0.67	0.78	0.55	F07	4xM8	626.40	39.00
SWFF150-24	150	Stainless	3"	2.99	7.50	4x5/8"	4.80	12.65	5.45	4.52	1.12	0.70	0.78	0.55	F07	4xM8	1012.68	28.21
CWFF150-24		Carbon		2.99	7.50	4x5/8"	4.80	12.65	5.45	4.52	1.12	0.70	0.78	0.55	F07	4xM8	1012.68	45.85
SWFF300-24	300	Stainless	3"	2.99	8.25	8x3/4"	4.80	12.66	5.45	4.53	0.83	0.71	0.78	0.55	F07	4xM8	1012.68	55.00
CWFF300-24		Carbon		2.99	8.25	8x3/4"	4.80	12.66	5.45	4.53	0.83	0.71	0.78	0.55	F07	4xM8	1012.68	55.00
SWFF150-32	150	Stainless	4"	3.74	9.00	8x5/8"	5.98	15.01	6.16	5.39	1.35	0.86	0.94	0.70	F10	4xM10	1612.40	46.07
CWFF150-32		Carbon		3.74	9.00	8x5/8"	5.98	15.01	6.16	5.39	1.35	0.86	0.94	0.70	F10	4xM10	1612.40	75.39
SWFF300-32	300	Stainless	4"	3.74	10.00	8x3/4"	5.98	15.02	6.20	5.39	0.93	0.83	0.94	0.71	F10	4xM10	1612.40	100.00
CWFF300-32		Carbon		3.74	10.00	8x3/4"	5.98	15.02	6.20	5.39	0.93	0.83	0.94	0.71	F10	4xM10	1612.40	100.00
SWFF150-48	150	Stainless	5"	4.92	10.00	8x3/4"	7.71	15.01	7.02	6.25	1.33	0.86	0.94	0.70	F10	4xM10	1980.12	82.67
CWFF150-48		Carbon		4.92	10.00	8x3/4"	7.71	15.01	7.02	6.25	1.33	0.86	0.94	0.70	F10	4xM10	1980.12	115.74
SWFF300-48	300	Stainless	5"	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CWFF300-48		Carbon		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SWFF150-64	150	Stainless	6"	5.91	11.00	8x3/4"	9.13	27.55	9.33	7.93	2.02	1.18	1.65	1.18	F12	4xM12	2347.84	101.63
CWFF150-64		Carbon		5.91	11.00	8x3/4"	9.13	27.55	9.33	7.93	2.02	1.18	1.65	1.18	F12	4xM12	2347.84	135.50
SWFF300-64	300	Stainless	6"	5.91	15.74	12x3/4"	9.13	27.56	9.33	7.93	2.03	1.18	1.65	1.18	F12	4xM12	2347.84	223.00
CWFF300-64		Carbon		5.91	12.50	12x3/4"	9.13	27.56	9.33	7.93	2.03	1.18	1.65	1.18	F12	4xM12	2347.84	223.00



## S2F3M/C2F3M SERIES BALL VALVE

### Features:

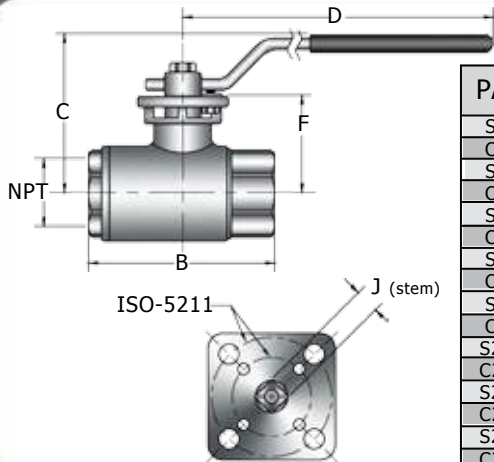
- Direct Mount 2-Piece Ball Valve
- Available in Stainless Steel and Carbon Steel
- ISO 5211 Mounting Pad
- 29"Hg-3000psi (100°F), Tested to 4500psi
- Full Port Ball Valve (2" Reduced Port)
- Delrin® Seats, Viton® O-rings
- Blow-Out Proof Stem, Anti-Static Design
- NACE MR0175
- Temperature -20°F to 185°F



S2F3M

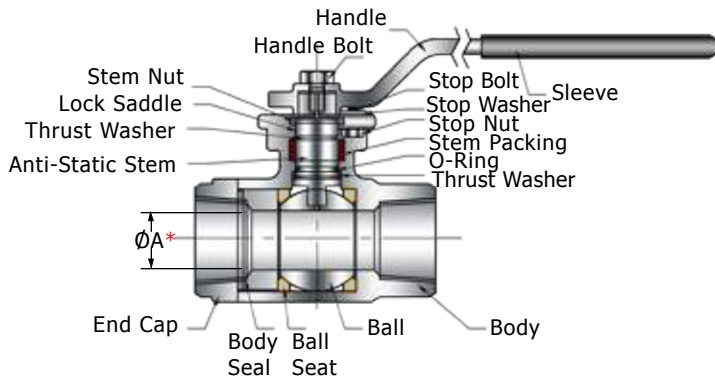
C2F3M

### Dimensions



PART #	NPT	ØA*	B	C	D	F	J in/mm	ISO 5211	Break Torque in/Lbs	Cv	Wt. Lbs.
S2F3M-2	1/4"	0.38	2.95	2.31	6.30	1.61	.35/9	F03/F04	101	5	2
C2F3M-2	1/4"	0.38	2.95	2.31	6.30	1.61	.35/9	F03/F04	101	5	2
S2F3M-3	3/8"	0.38	2.95	2.31	6.30	1.61	.35/9	F03/F04	104	8	2
C2F3M-3	3/8"	0.38	2.95	2.31	6.30	1.61	.35/9	F03/F04	104	8	2
S2F3M-4	1/2"	0.50	2.95	2.31	6.30	1.61	.35/9	F03/F04	130	19	2
C2F3M-4	1/2"	0.50	2.95	2.31	6.30	1.61	.35/9	F03/F04	130	19	2
S2F3M-6	3/4"	0.69	3.19	2.60	6.30	1.72	.35/9	F03/F04	156	35	2
C2F3M-6	3/4"	0.69	3.19	2.60	6.30	1.72	.35/9	F03/F04	156	35	2
S2F3M-8	1"	0.87	3.58	3.02	6.30	2.11	.43/11	F04/F05	208	50	4
C2F3M-8	1"	0.87	3.58	3.02	6.30	2.11	.43/11	F04/F05	208	50	4
S2F3M-10	1-1/4"	1.14	4.33	3.19	6.30	2.32	.43/11	F04/F05	390	110	5
C2F3M-10	1-1/4"	1.14	4.33	3.19	6.30	2.32	.43/11	F04/F05	390	110	5
S2F3M-12	1-1/2"	1.37	4.76	3.84	8.27	2.96	.55/14	F04/F05	468	180	9
C2F3M-12	1-1/2"	1.37	4.76	3.84	8.27	2.96	.55/14	F04/F05	468	180	9
S2F3M-16	2"	1.37	5.71	4.14	8.27	2.96	.55/14	F04/F05	468	210	11
C2F3M-16	2"	1.37	5.71	4.14	8.27	2.96	.55/14	F04/F05	468	210	11

### Bill of Materials



PART	Material
Body	Stainless / Carbon
End Cap	CF8M / WCB
Ball	CF8M
Anti-static Stem	316 Stainless Steel
Ball Seat	Delrin
Body Seal	PTFE
Thrust Washer	PTFE
Stem Packing	PTFE
O-ring	Viton®
Thrust Washer (2)	50% SS - 50% PTFE
Stem Nut	304 Stainless Steel
Lock Saddle	304 Stainless Steel
Handle	304 Stainless Steel
Stop Bolt	304 Stainless Steel
Stop Nut	304 Stainless Steel
Stop Washer	304 Stainless Steel
Handle Bolt	304 Stainless Steel
Handle Sleeve	Vinyl

# CG/CFH SERIES BALL VALVE



Latch Lock Handle

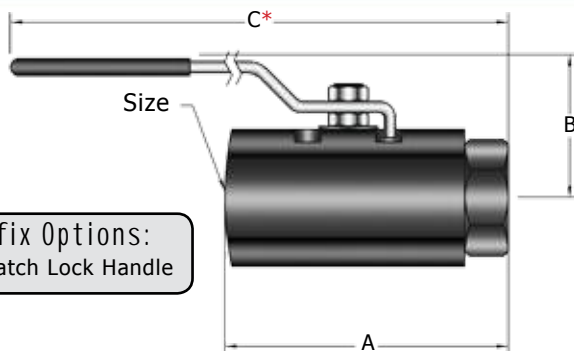
## Features:

### CG Series Carbon Steel 2000psi Ball Valve

- 29"-Hg 2000psig WOG, Cold Non-Shock (1/4"-1")
- 29"-Hg 1500psig WOG, Cold Non-Shock (1-1/4"-2")
- Blowout Proof Stem, W/Adjustable Stem Packing
- RTFE Seats
- 150psig Saturated Steam
- Temperature Range -20°F to 425°F

### CFH Series Carbon Steel 3000psi Ball Valve

- 29"-Hg 3000psig WOG, Cold Non-Shock
- Full Port
- Blowout Proof Stem, W/Adjustable Stem Packing
- RTFE Seats
- 150psig Saturated Steam
- Temperature Range -20°F to 425°F



### CG and CG-LL Series 2,000psi

Part	Size NPT	A	B	C	Cv	C* Lock handle	Wt. Lbs.
CG-2	1/4"	2.00	1.63	3.78	6	4.18	0.60
CG-3	3/8"	2.00	1.63	3.78	12	4.18	0.60
CG-4	1/2"	2.37	1.73	3.78	15	4.18	0.80
CG-6	3/4"	2.90	2.08	5.10	23	5.22	1.45
CG-8	1"	3.41	2.30	5.10	36	5.22	2.35
CG-10	1-1/4"	3.94	2.76	6.10	44	7.60	2.70
CG-12	1-1/2"	4.65	2.98	6.10	64	7.60	4.50
CG-16	2"	4.98	3.54	8.60	114	8.60	6.10

## Dimensions

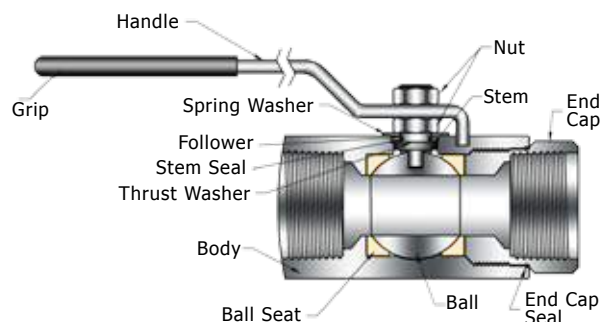
### CFH and CFH-LL Series 3,000psi

Part	Size	A	B	C	Cv	C* Lock handle	Wt. Lbs.
CFH-2	1/4" NPT	2.01	1.63	3.78	6	4.18	0.60
CFH-S4	7/16"-20 SAE						
CFH-3	3/8" NPT	2.01	1.63	3.78	12	4.18	0.60
CFH-S6	9/16"-18 SAE						
CFH-4	1/2" NPT	2.84	2.16	4.78	19	4.18	1.50
CFH-S8	3/4"-16 SAE					4.75	
CFH-6	3/4" NPT	3.71	2.35	4.78	34	5.22	2.40
CFH-S12	1-1/16"-12 SAE					5.33	
CFH-8	1" NPT	4.15	2.85	6.10	54	5.22	5.30
CFH-S16	1-5/16"-12 SAE					6.20	
CFH-10	1-1/4" NPT	4.65	3.43	8.00	48	7.60	7.73
CFH-S20	1-5/8"-12 SAE						
CFH-12	1-1/2" NPT	5.23	3.56	8.00	84	7.60	10.2
CFH-S24	1-7/8"-12 SAE						
CFH-16	2" NPT	5.84	4.18	9.00	108	7.60	14.9
CFH-S32	2-1/2"-12 SAE					8.60	

\* - with Locking Handle

## Bill of Materials

PART	Stainless Steel
Body	Steel C12L14 Zinc Phos Coated
End Cap	Steel C12L14 Zinc Phos Coated
Stem	316 Stainless Steel
Ball	316 Stainless Steel
End Cap Seal	PTFE
Stem Seal	RPTFE
Thrust Washer	RPTFE
Ball Seat	RPTFE
Handle	Zinc Plated Steel
Nut	Zinc Plated Steel
Spring Washer	Zinc Plated Steel
Follower	304 Stainless Steel
Grip	Vinyl



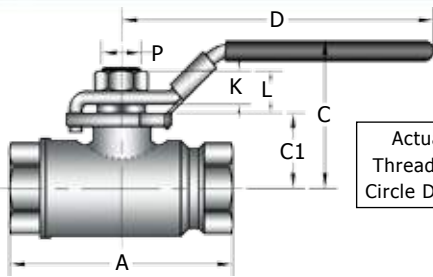


# SS6M/CS6M SERIES BALL VALVE

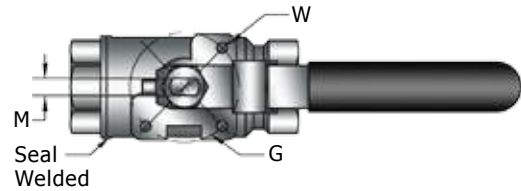


## Features:

- Seal Welded, Full Port Ball Valve
- Available in Stainless and Carbon Steel
- 6000psi WOG
- Delrin® Seats and Viton® O-Rings
- Latch Lock Handle Standard
- Blow-Out Proof Stem
- NACE MR0175-90
- API 607-4 Fire Safe/API 608 Compliance
- API Standard 6D



Actuator Mounting Pad with Three Threaded Mounting Holes. The Bolting Circle Diameter Complies with ISO 5211

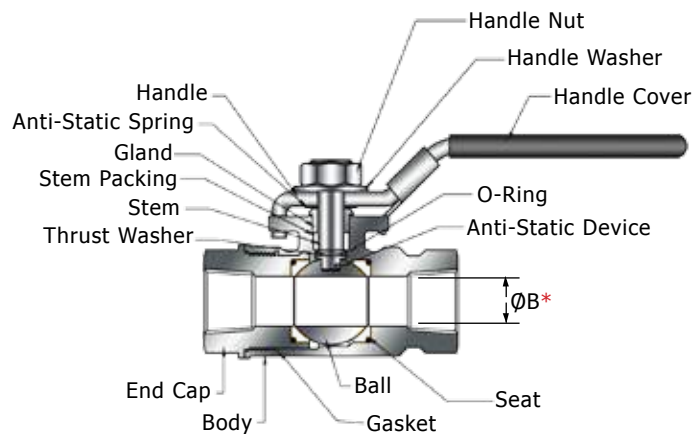


## Dimensions

Part # Stainless Steel	Part # Carbon Steel	NPT	A	ØB*	C	C1	D	G	K	L	M	P	W	ISO 5211	Cv	Torque in/Lbs	Lbs
SS6M-2	CS6M-2	1/4"	2.80	0.37	2.34	0.96	4.25	1.42	0.31	0.50	0.20	0.31	M5	F03/F04	7	195	1.19
SS6M-3	CS6M-3	3/8"	2.80	0.37	2.34	0.96	4.25	1.42	0.31	0.50	0.20	0.31	M5	F03/F04	8	195	1.15
SS6M-4	CS6M-4	1/2"	3.19	0.49	2.34	0.96	4.25	1.42	0.31	0.50	0.20	0.31	M5	F03/F04	10	233	1.50
SS6M-6	CS6M-6	3/4"	3.78	0.79	2.50	1.24	5.16	1.65	0.55	0.83	0.28	0.39	M5	F03/F04	35	404	2.76
SS6M-8	CS6M-8	1"	4.25	0.98	3.00	1.61	6.57	1.97	0.75	1.06	0.39	0.55	M6	F04/F05	68	825	4.87
SS6M-10	CS6M-10	1-1/4"	4.72	1.26	3.19	1.81	6.57	1.97	0.75	1.06	0.39	0.55	M6	F04/F05	110	860	7.41
SS6M-12	CS6M-12	1-1/2"	5.12	1.50	4.30	2.40	8.66	2.76	1.14	1.56	0.47	0.79	M8	F05/F07	155	997	12.1
SS6M-16	CS6M-16	2"	5.91	1.50	4.30	2.40	8.66	2.76	1.14	1.56	0.47	0.79	M8	F05/F07	155	1490	14.7

## Bill of Materials

PART	Material Stainless	Material Carbon
Body	A351 CF8M	A216 WCB
End Cap	A351 CF8M	A216 WCB
Seat	Derlin	Derlin
Ball	316 Stainless Steel	304 Stainless Steel
Gasket	Graphite	Graphite
Thrust Washer	PTFE	PTFE
Stem	A276 316	A276 304
Stem Packing	Graphite	Graphite
Gland	304 Stainless Steel	304 Stainless Steel
Handle	304 Stainless Steel	Zinc Plated C.S.
Handle Washer	304 Stainless Steel	304 Stainless Steel
Handle Nut	304 Stainless Steel	304 Stainless Steel
Handle Cover	PVC	PVC
Anti-Static Spring	301 Stainless Steel	301 Stainless Steel
O-Ring	Viton®	Viton®
Anti-Static Device	316 Stainless Steel	304 Stainless Steel

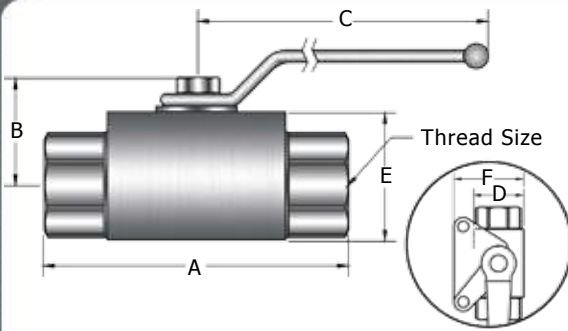


# SFM SERIES BALL VALVE



## Features:

- 316 Stainless Steel full Port Ball Valve
- Available in NPT and SAE
- Delrin® Seats and Viton® O-Rings
- Options: Suffix "LP" for Locking Plate
- Blow-Out Proof Stem
- Temperature -4°F to 215°F



## Dimensions

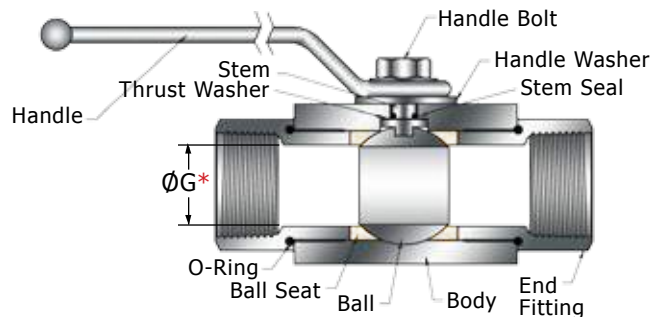
Part#	Thread	Size	Psi	A	B	C	D	E	F	ØG*
SFM-2	1/4" NPT	1/4"	5880	2.72	1.20	4.21	1.02	1.26	1.88	0.24
SFM-S4	7/16"-20 ORB									
SFM-3	3/8" NPT	3/8"	5880	2.87	1.29	4.21	1.26	1.50	2.00	0.39
SFM-S6	9/16"-18 ORB									
SFM-4	1/2" NPT	1/2"	5880	3.62	1.31	4.21	1.38	1.57	2.06	0.51
SFM-S8	3/4"-16 ORB									
SFM-6	3/4" NPT	3/4"	5145	3.82	1.91	6.50	1.93	2.24	2.76	0.79
SFM-S12	1-1/16"-12 ORB									
SFM-8	1" NPT	1"	5145	4.45	1.95	6.50	2.36	2.36	2.97	0.94
SFM-S16	1-5/16"-12 ORB									
SFM-10	1-1/4" NPT	1-1/4"	5145	6.54	2.59	8.30	3.54	3.30	2.97	1.25
SFM-S20	1-5/8"-12 ORB									
SFM-12	1-1/2" NPT	1-1/2"	5145	7.14	2.73	8.30	3.26	3.62	3.32	1.49
SFM-S24	1-7/8"-12 ORB									
SFM-16	2" NPT	2"	5145	9.30	3.15	8.50	3.94	4.37	4.11	1.89
SFM-S32	2-1/2"-12 ORB									

### Locking Plate Dimensions

	LL-1SS 1/4"-1/2"	LL-2SS 3/4"-1-1/4"	LL-3SS 1-1/2"-2"
A	1.82	2.48	3.15
B	2.75	3.58	4.28

## Bill of Materials

PART	Stainless Steel
Body	316 Stainless Steel
End Fitting	316 Stainless Steel
Ball	316 Stainless Steel
Ball Seat	Delrin
O-Ring	Viton®
Stem Seal	Viton®
Thrust Washer	Delrin
Stem	316 Stainless Steel
Handle Washer	Zinc Plated Steel
Handle Bolt	Zinc Plated Steel
Handle	Cast Aluminum

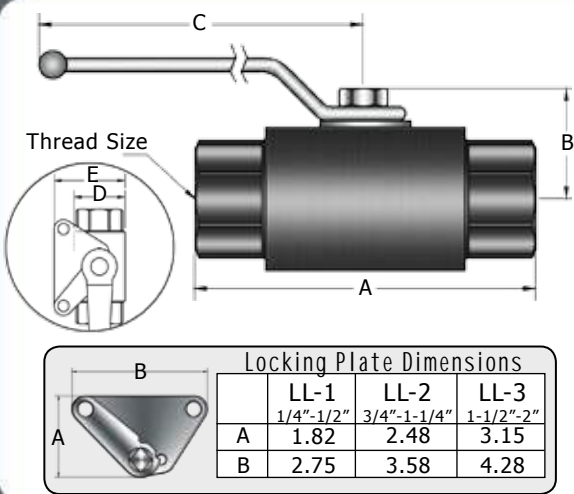




# CFM SERIES BALL VALVE



- ### Features:
- Carbon Steel Full Port Ball Valve
  - Available in NPT and SAE
  - Delrin® Seats and Viton® O-Ring
  - Options: Suffix "LP" for Locking Plate
  - Blow-Out Proof Stem
  - Temperature -20°F to 215°F

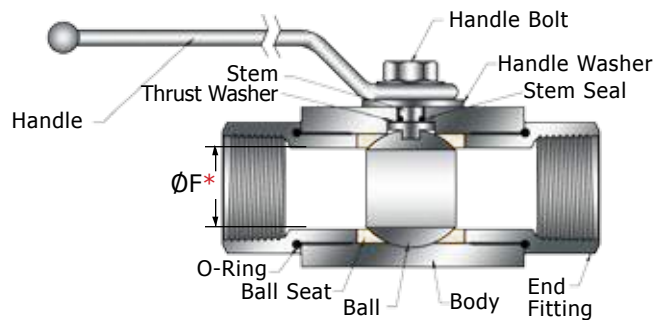


### Dimensions

Part#	Thread	Size	Psi	A	B	C	D	E	ØF*
CFM-2	1/4" NPT	1/4"	7350	2.72	1.20	4.21	1.02	1.88	0.24
CFM-S4	7/16"-20 ORB								
CFM-3	3/8" NPT	3/8"	7350	2.87	1.29	4.21	1.26	2.00	0.39
CFM-S6	9/16"-18 ORB								
CFM-4	1/2" NPT	1/2"	7350	3.62	1.31	4.21	1.38	2.06	0.51
CFM-S8	3/4"-16 ORB								
CFM-6	3/4" NPT	3/4"	5880	3.82	1.91	6.50	1.93	2.76	0.78
CFM-S12	1-1/16"-12 ORB								
CFM-8	1" NPT	1"	5145	4.45	1.95	6.50	2.36	2.97	0.94
CFM-S16	1-5/16"-12 ORB								
CFM-10	1-1/4" NPT	1-1/4"	5145	5.16	1.95	6.50	2.36	2.97	0.94
CFM-S20	1-5/8"-12 ORB								
CFM-12	1-1/2" NPT	1-1/2"	5145	5.47	1.95	6.50	2.36	3.32	0.94
CFM-S24	1-7/8"-12 ORB								
CFM-16	2" NPT	2"	5880	5.50	3.15	8.50	3.94	4.11	0.94
CFM-S32	2-1/2"-12 ORB								

### Bill of Materials

PART	Carbon Steel
Body	Oxide Coated Carbon Steel*
End Fitting	Oxide Coated Carbon Steel*
Stem	Coated Steel
O-Ring	Viton®**
Stem Seal	Viton®**
Ball Seat	Delrin**
Thrust Washer	Delrin**
Handle	Cast Aluminum
Handle Bolt	Zinc Plated Steel
Handle Washer	Zinc Plated Steel



Note:  
 \* Zinc Plated Option Available  
 \*\* Other Seats and Seals Available  
 (consult factory)

# CFM-TL SERIES BALL VALVE



with Locking Plate

## Features:

- Carbon Steel 3-Way Full Port Diverter Valve
- Available in NPT and SAE
- Delrin® seats and Viton® O-Rings
- Options: Suffix "LP" for Locking Plate
- Blow-Out Proof Stem
- Available in Stainless Steel C/F
- Temperature -20°F to 215°F

## Dimensions

Part#	Thread	Size	Psi	A	C	D	E	F	ØG*	H
CFM-2TL	1/4" NPT	1/4"	5880	2.72	4.21	1.20	1.26	1.02	0.24	1.88
CFM-S4TL	7/16"-20 ORB									
CFM-3TL	3/8" NPT	3/8"	5880	2.87	4.21	1.29	1.50	1.26	0.39	2.00
CFM-S6TL	9/16"-18 ORB									
CFM-4TL	1/2" NPT	1/2"	5145	3.62	4.21	1.31	1.57	1.38	0.51	2.06
CFM-S8TL	3/4"-16 ORB									
CFM-6TL	3/4" NPT	3/4"	5145	3.82	6.50	1.91	2.24	1.93	0.79	2.76
CFM-S12TL	1-1/16"-12 ORB									
CFM-8TL	1" NPT	1"	5145	4.45	6.50	1.95	2.36	2.36	0.94	2.97
CFM-S16TL	1-5/16"-12 ORB									
CFM-10TL	1-1/4" NPT	1-1/4"	5145	4.53	6.50	2.60	3.30	2.99	1.18	2.97
CFM-S20TL	1-5/8"-12 ORB									
CFM-12TL	1-1/2" NPT	1-1/2"	5145	4.81	6.50	2.73	3.62	3.27	1.37	3.32
CFM-S24TL	1-7/8"-12 ORB									
CFM-16TL	2" NPT	2"	5145	5.53	8.50	3.15	4.37	3.94	1.73	4.11
CFM-S32TL	2-1/2"-12 ORB									

Note: Available as L-Port Only

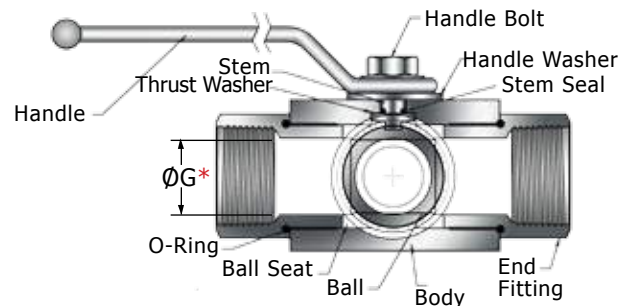
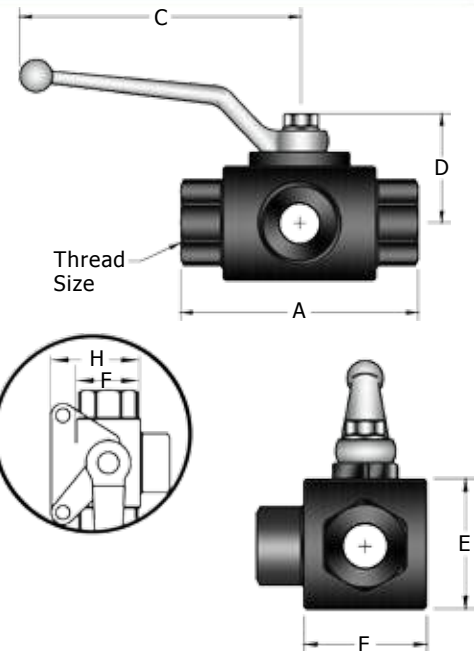
Locking Plate Dimensions		LL-1	LL-2	LL-3
			1/4"-1/2"	3/4"-1-1/4"
A		1.82	2.48	3.15
B		2.75	3.58	4.28

## Bill of Materials

PART	Carbon Steel
Body	Oxide Coated Carbon Steel*
End Fitting	Oxide Coated Carbon Steel*
Stem	Coated Steel
O-Ring	Viton®**
Stem Seal	Viton®**
Ball Seat	Delrin®**
Thrust Washer	Delrin®**
Handle	Cast Aluminum
Handle Bolt	Zinc Plated Steel
Handle Washer	Zinc Plated Steel

Note:

- \* Zinc Plated Option Available
- \*\* Other Seats and Seals Available (consult factory)



**Universal  
Components  
Inc.**

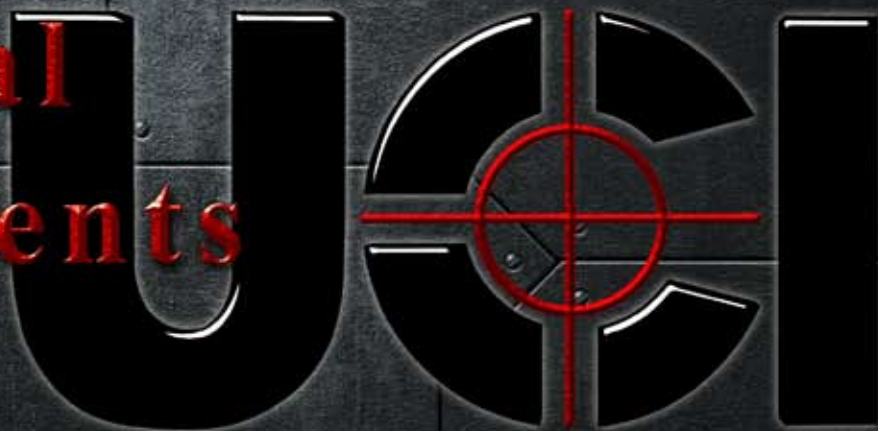


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Universal  
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Inc.



Butterfly  
Valves



# Lug and Wafer Butterfly Valves



MSS SP-67 Compliant

- ### Materials
- ANSI 125 & ANSI 150 Class
  - ISO 5211 Mounting Pad (standard)
  - Epoxy Coated Cast Iron Body
  - EPDM Resilient Seat (standard)
  - AP1609 Face to Face Flange
  - Temperature -30°F to 250°F
  - 10 Position Handle Standard (up to 12")

### How to Order

**SSB** = Stainless Steel Body CF8M  
**B** = Epoxy Coated Ductile Iron (Lug)  
**B** = Epoxy Coated Cast Iron (Wafer)  
**S** = Sanitary Tri-Clamp

**L** = Lug  
**W** = Wafer  
**T** = Tri-Clamp

**None** = Bare Stem  
**H** = 10 Position Handle  
**G** = Gear Operator

**B N E L - 10 H**

**N** = Nylon Coated Ductile Iron  
**S** = Stainless Steel CF8M

**E** = EPDM\*  
**B** = Buna®  
**V** = Viton®  
**T** = Teflon®  
**S** = Silicone (sanitary only)

**1.5** = 1-1/2"  
**2** = 2"  
**2.5** = 2-1/2"  
**3** = 3"  
**4** = 4"  
**5** = 5"  
**6** = 6"  
**8** = 8"  
**10** = 10"  
**12** = 12"

\* Food Grade on Sanitary Only

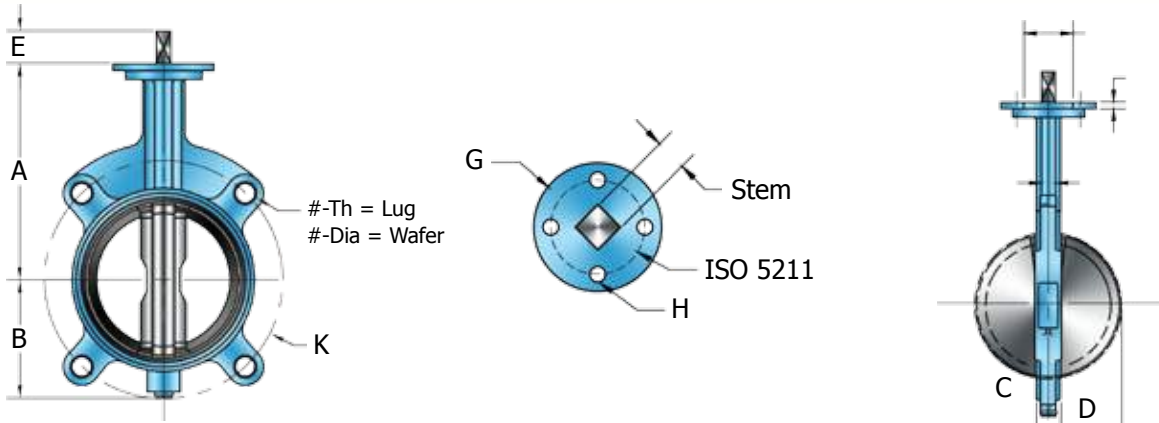
### Materials

No.	Part	Material
1	Lug	Epoxy Coated Ductile Iron
	Wafer	Epoxy Coated Cast Iron
2	Seat	EPDM (-30° to 250°F)
3	Nylon Coated Disc	Ductile Iron + Nylon 11
	Stainless Steel Disc	CF8M
4	Lower Shaft	416 Stainless Steel
5	Upper Shaft	416 Stainless Steel
6	Location Pin	Carbon Steel
7	Bushing	PTFE
8	O-Ring	EPDM



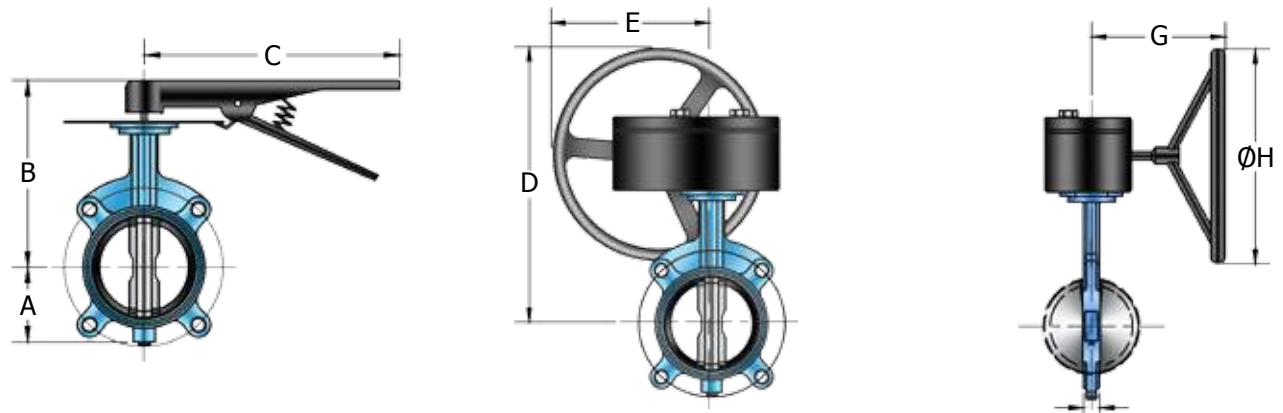


# Lug and Wafer Butterfly Valves



Dimensions

Size	ISO 5211	Stem	A	B	C	D	E	Upper Flange			Lug #-Dia Lbs	Wafer #-Th Lbs	Seat Torque		Cv (gpm@1psi)			
								G	H	K			100 Psi	200 Psi	50% OP	100% OP		
1-1/2"	F05	9mm	5.71	2.97	10.63	0.84	0.47	3.03	4-0.28	4.74	4-0.75	5.0	4-5/8"-11	7.1	111	133	35	108
2"	F05	9mm	6.34	3.15	10.63	1.04	0.47	3.03	4-0.28	4.74	4-0.75	5.5	4-5/8"-11	8.4	126	146	45	135
2-1/2"	F05	9mm	6.89	3.50	10.63	1.27	0.47	3.03	4-0.28	5.49	4-0.75	7.1	4-5/8"-11	9.3	134	167	65	220
3"	F05	9mm	7.13	3.74	10.63	1.55	0.47	3.03	4-0.28	6.00	4-0.75	8.4	4-5/8"-11	10.4	205	223	70	300
4"	F07	11mm	7.87	4.49	10.63	2.05	0.63	3.54	4-0.35	7.50	4-0.75	10.8	8-5/8"-11	19.8	339	386	140	605
5"	F07	14mm	8.34	5.00	10.63	2.43	0.75	3.54	4-0.35	8.50	4-0.87	15.4	8-3/4"-10	24.0	523	602	235	1010
6"	F07	14mm	8.90	5.47	10.63	3.07	0.75	3.54	4-0.35	9.50	4-0.87	17.2	8-3/4"-10	31.3	677	996	360	1620
8"	F10	17mm	10.24	6.89	12.01	3.99	0.75	4.92	4-0.47	11.75	4-0.87	29.1	8-3/4"-10	40.1	1205	1864	715	3205
10"	F10	22mm	11.50	7.99	13.27	4.93	0.95	4.92	4-0.47	14.25	4-1.00	42.2	12-7/8"-9	59.1	1890	3140	1225	5305
12"	F10	22mm	13.27	9.53	15.04	5.94	0.95	5.51	4-0.47	17.00	4-1.00	71.5	12-7/8"-9	88.2	2808	4767	1900	8250



Dimensions with Operator

Size	A	B	C	D	E	G	Weight w/operator				ØH	Cv (gpm@1psi)	
							Wafer		Lug			50% OP	100% OP
							Lever	Gear	Lever	Gear			
1-1/2"	2.97	7.24	10.63	10.15	4.75	6.00	6.8	16.3	9.6	19.1	5.91	35	108
2"	3.14	7.60	10.63	10.78	4.75	6.00	7.5	17.0	10.4	19.9	5.91	45	135
2-1/2"	3.50	8.15	10.63	11.33	4.75	6.00	9.1	18.6	11.3	20.8	5.91	65	220
3"	3.74	8.38	10.63	11.57	4.75	6.00	10.4	19.9	12.4	21.9	5.91	70	300
4"	4.48	9.13	10.63	12.31	4.75	6.00	12.8	22.3	21.8	31.3	5.91	140	605
5"	4.99	9.60	10.63	12.78	4.75	6.00	17.4	26.9	26.0	35.5	5.91	235	1010
6"	5.47	10.16	10.63	13.34	4.75	6.00	19.2	28.7	33.3	42.8	5.91	360	1620
8"	6.88	12.01	14.17	17.84	8.35	9.84	33.4	57.8	44.4	68.8	11.81	715	3205
10"	7.99	13.27	19.68	19.04	8.35	9.84	48.1	70.9	64.9	87.8	11.81	1225	5305
12"	9.52	15.04	19.68	20.81	9.06	9.84	77.3	104.6	94.0	121.3	11.81	1900	8250



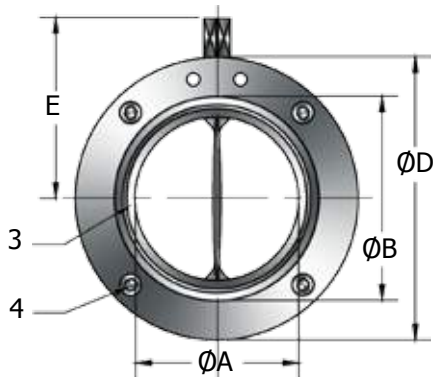
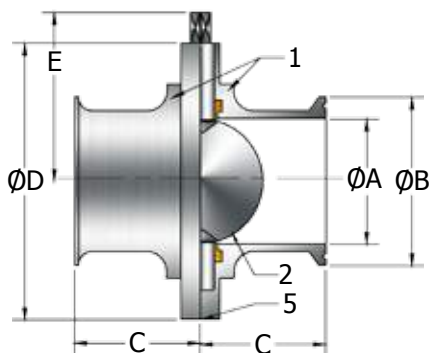
# Sanitary Tri-Clamp Butterfly Valve



Complies with FDA, USDA and 3A

## Materials

- Stainless Steel ASTM 316L Grade
- Surface Finish Meets 3-A, FDA & USDA Standards.
- 316L Mirror Finish Disc Provides an Even Flow Preventing Obstructions and Restrictions.
- EPDM Seats (standard)
- EPDM Resilient Seat (standard)
- FDA Approved Silicone, Viton® and White Viton® Seals are Available.
- Pressure 110psi@200°F
- 13-Position, 304SS, Spring Loaded Lever Lock Handle 1/2" to 6"



## Dimensions

Tri-Clamp (Standard)						
Size	A	B	C	D	E	Torque in/Lbs
1/2"	0.37	1.00	1.75	3.10	2.16	130
3/4"	0.63	1.00	1.75	3.10	2.16	130
1"	0.87	3.00	1.75	3.11	2.40	190
1-1/2"	1.37	1.99	1.75	3.35	2.53	215
2"	1.87	2.52	1.87	4.13	2.93	230
2-1/2"	2.37	3.05	1.91	4.41	3.06	200
3"	2.84	3.58	2.03	4.92	3.32	330
4"	3.84	4.69	2.39	6.18	4.00	470
6"	5.84	6.57	3.00	8.20	6.35	1,230
8"	7.93	8.54	3.28	11.22	7.83	1,300
10"	9.90	10.57	3.28	11.22	8.95	C/F
12"	11.90	12.56	2.87	13.46	9.09	C/F

## Materials

No.	Part	Part
1	Body Half	316L Stainless Steel
2	Disc	316L Stainless Steel
3	Seal	Silicone/EPDM/Viton®
4	Body Bolts	304 Stainless Steel
5	Body Cap	Buna-N

Universal  
Components  
Inc.



Safety Relief  
Valves



# UCI

## PSNC and PBNC SERIES RELIEF VALVES

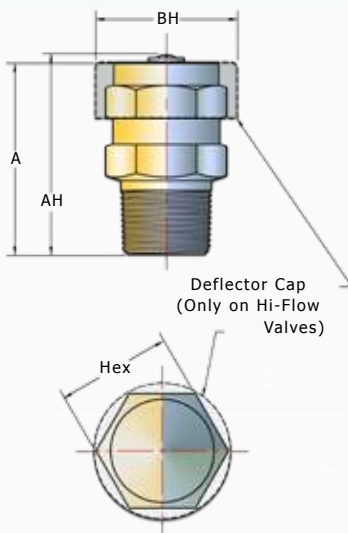
### FEATURES:

- Available in 316 Stainless Steel & Brass
- High Accuracy Relief Settings (.5 to 150psi)
- 200psi Max Working Pressure
- Viton Seal Standard
- Working Temperature 0°F to 350°F
- Relieves +/- 5% of Set Pressure



### Suffix and Options for PBNC and PSNC Series Relief Valves

\* = High Flow Deflector Cap ( H for cap or leave blank if not needed)  
 \*\*\* = Set Pressure (example of part # PSNC2H-15.5 Psi)  
 Viton is Standard Seal other Elastomers are available, Please Consult Factory  
 Minimum Set Pressure is 0.5 Psi, Maximum Set Pressure is 150 Psi

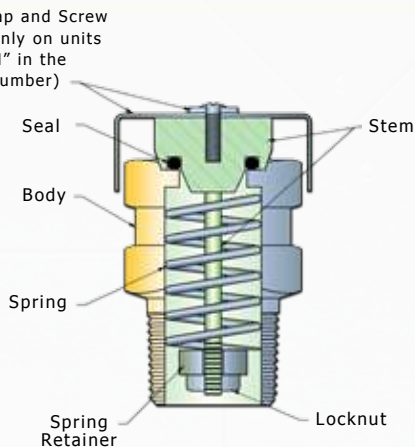


PBNC & PSNC Dimensions				
Part		Pipe Size	A	Hex
(Brass)	(Stainless)			
PBNC1	PSNC1	1/8" NPT	0.97	0.50
PBNC2	PSNC2	1/4" NPT	1.20	0.62
PBNC3	PSNC3	3/8" NPT	1.24	0.75
PBNC4	PSNC4	1/2" NPT	1.75	1.00
PBNC6	PSNC6	3/4" NPT	2.25	1.12
PBNC8	PSNC8	1" NPT	3.12	1.50

PBNC & PSNC Dimensions					
Part		Pipe Size	AH	BH	Hex
(Brass)	(Stainless)				
PBNC1H	PSNC1H	1/8" NPT	1.10	0.69	0.50
PBNC2H	PSNC2H	1/4" NPT	1.32	0.92	0.62
PBNC3H	PSNC3H	3/8" NPT	1.38	1.17	0.75
PBNC4H	PSNC4H	1/2" NPT	1.92	1.40	1.00
PBNC6H	PSNC6H	3/4" NPT	2.44	1.73	1.12
PBNC8H	PSNC8H	1" NPT	3.29	1.94	1.50

### PBNC Series relief Valve Bill of Materials

DESCRIPTION	MATERIAL
Body	Brass (ASTM B16)
Spring	302 Stainless Steel (316 Optional)
Stem	Brass (ASTM B16)
Locknut	18-8 Stainless Steel
Seal	Viton
Spring Retainer	Brass (ASTM B16)
Hi-Flow Deflector Cap and Screw	2024 Aluminum ASTM B211



### PSNC Series relief Valve Bill of Materials

DESCRIPTION	MATERIAL
Body	316 Stainless Steel
Spring	302 Stainless Steel (316 Optional)
Stem	316 Stainless Steel
Locknut	18-8 Stainless Steel
Seal	Viton
Spring Retainer	316 Stainless Steel
Hi-Flow Deflector Cap and Screw	2024 Aluminum ASTM B211



## Flow Data

### PSNC and PBNC SERIES Flow (SCFM)

Spring No.		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Set Pressure</b>		.5 - 2.5	2.6 - 7.5	7.6 - 15	16 - 35	36 - 75	76 - 125	126 - 150
1/8"	PSNC1 (SCFM)	0.13	0.57	0.92	1.50	4.33	8.33	10.17
	PBNC1 (SCFM)							
1/4"	PSNC2 (SCFM)	0.13	0.62	1.15	2.05	8.58	33.52	38.17
	PBNC2 (SCFM)							
3/8"	PSNC3 (SCFM)	0.20	0.97	1.80	2.50	9.17	21.67	19
	PBNC3 (SCFM)							
1/2"	PSNC4 (SCFM)	0.83	1.83	2.50	3.67	24.3	62.08	66.67
	PBNC4 (SCFM)							
3/4"	PSNC6 (SCFM)	C/F	C/F	C/F	C/F	C/F	C/F	C/F
	PBNC6 (SCFM)							
1"	PSNC8 (SCFM)	C/F	C/F	C/F	C/F	C/F	C/F	C/F
	PBNC8 (SCFM)							

### PSNC\*H and PBNC\*H SERIES Flow (SCFM) with High Flow Deflector Cap

Spring No.		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Set Pressure</b>		.5 - 2.5	2.6 - 7.5	7.6 - 15	16 - 35	36 - 75	76 - 125	126 - 150
1/8"	PSNC1H (SCFM)	0.17	0.65	1.58	1.67	4.67	9.67	13
	PBNC1H (SCFM)							
1/4"	PSNC2H (SCFM)	0.148	0.67	1.67	2.87	39	71.2	110.83
	PBNC2H (SCFM)							
3/8"	PSNC3H (SCFM)	0.22	1.28	2.17	3.25	12.3	72.55	104.58
	PBNC3H (SCFM)							
1/2"	PSNC4H (SCFM)	1	4.1	7	10.97	43.42	C/F	C/F
	PBNC4H (SCFM)							
3/4"	PSNC6H (SCFM)	C/F	C/F	C/F	C/F	C/F	C/F	C/F
	PBNC6H (SCFM)							
1"	PSNC8H (SCFM)	C/F	C/F	C/F	C/F	C/F	C/F	C/F
	PBNC8H (SCFM)							



# NCHL2 SERIES RELIEF VALVES

- FEATURES:**
- Machined Solid Brass Body & Spring
  - 302 Stainless Steel Spring, Guides and Pull Ring
  - Viton Seal Standard
  - Temperature Range 0°F to 350°F
  - Relieves +/- 10% of Set Pressure



### Dimensional Data

Part no.	A	B	C
NCHL2	0.75	1/4 NPT	5/8"

### Flow Data

Pressure Settings (psi)	5	10	15	20	25
SCFM	12	30	43	50	56
Pressure Settings (psi)	30	40	50	60	75
SCFM	63	82	97	110	134

NOTE: Part Number NCHL2  
 Pressure Settings in 5psi Increments  
 Example: NCHL2-30 = 30psi Relief

### Bill of Materials

DESCRIPTION	MATERIAL
Body	Brass
Seat	Viton
Stem	302 Stainless Steel
Spring	
Shield Disc	
Pull Ring	
Guide	



# CV SERIES RELIEF VALVES



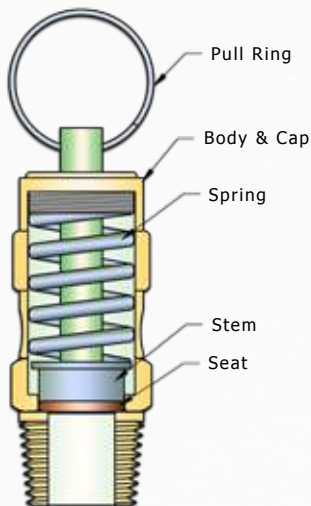
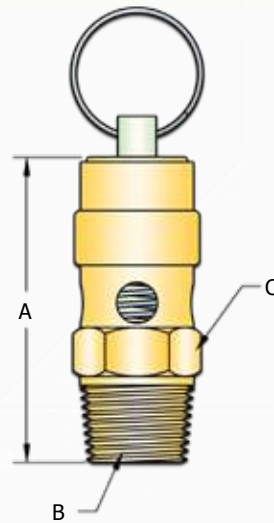
## FEATURES:

- Brass Body
- Silicon Seal, Standard
- Optional Viton Seal, Suffix "V"
- ASME, NB, UV & CRN
- Unfired Pressure Vessel
- Temperature Range -65°F to 250°F
- Relieves +/- 3% of Set Pressure



## Dimensional Data

Part No.	A	B	C
CVM1	1.50	1/8" NPT	9/16"
CVM2	1.59	1/4" NPT	9/16"
CVH2	1.99	1/4" NPT	11/16"
CV3	2.00	3/8" NPT	11/16"
CV4	3.36	1/2" NPT	7/8"
CVH4	3.36	1/2" NPT	1-1/16"
CV6	3.59	3/4" NPT	1-1/16"
CV8	4.39	1" NPT	1-5/8"
CV10	4.39	1-1/4" NPT	1-5/8"



## Bill of Materials

DESCRIPTION	MATERIAL
Body	Brass
Seat	Silicone (Viton Optional)
Spring	1/4", 3/8", 1/2" NPT Zinc plated music wire 3/4", 1", 1-1/4" NPT Stainless Steel
Pull Ring	Stainless Steel
Stem	Brass



# SSCV & SSCVH SERIES RELIEF VALVES

- FEATURES:**
- 303 Stainless Steel Body
  - Viton Seal Standard
  - ASME, NB, UV & CRN
  - Unfired Pressure Vessel
  - Working Temperature 0°F to 350°F
  - Relieves +/- 3% of Set Pressure



### Dimensional Data

Part No.	A	B	C
SSCVH2	1.99	1/4" NPT	11/16"
SSCV4	3.36	1/2" NPT	7/8"
SSCV6	3.59	3/4" NPT	1-1/16"

### Bill of Materials

DESCRIPTION	MATERIAL
Body & Cap	ASTM B-16 Stainless Steel
Seat	Viton
Spring & Stem	Stainless Steel
Pull Ring	304 Stainless Steel



**SCFM Flow for CV Series Relief Valves at Set Pressure**  
 Factory Set "POP" +/-3%, +/-2% Below 70 PSIG  
 Working Pressure 10% Less than Set Pressure or 5 PSIG for Settings Below 50 PSIG

CVH2, SSCVH2 & CV3									
Set Pressure (psi)	25	30	35	40	45	50	55	60	65
Flow (SCFM)	32	36	40	45	49	53	57	61	65
Set Pressure (psi)	70	75	80	85	90	95	100	105	135
Flow (SCFM)	70	74	78	82	86	90	95	99	124
Set Pressure (psi)	140	145	150	155	160	165	170	175	180
Flow (SCFM)	128	132	136	141	145	149	153	157	161
Set Pressure (psi)	185	190	195	200	205	210	215	240	245
Flow (SCFM)	166	170	174	178	182	186	191	212	216
Set Pressure (psi)	240	245	250	255	260	265	270	275	280
Flow (SCFM)	212	216	220	224	228	232	237	241	245
Set Pressure (psi)	285	290	295	300	305	310	315	320	
Flow (SCFM)	249	253	257	262	266	270	274	278	

CV4 & SSCV4									
Set Pressure (psi)	50	55	60	65	70	75	80	85	90
Flow (SCFM)	106	115	123	132	140	148	157	165	174
Set Pressure (psi)	95	100	105	110	115	120	125	130	150
Flow (SCFM)	182	190	199	207	215	224	232	241	274
Set Pressure (psi)	155	160	165	170	175	180	185	190	195
Flow (SCFM)	283	291	299	308	316	325	333	341	350
Set Pressure (psi)	200	205	210	215	220	225	230		
Flow (SCFM)	358	367	375	383	392	400	409		

CVH4, SSCV6 & CV6									
Set Pressure (psi)	25	30	35	40	45	50	55	60	65
Flow (SCFM)	140	158	176	194	213	231	249	267	285
Set Pressure (psi)	70	75	80	85	90	95	100	110	160
Flow (SCFM)	304	322	340	358	376	395	413	449	631
Set Pressure (psi)	170	175	180	190	200	210	220	230	240
Flow (SCFM)	668	686	704	740	777	813	850	886	922
Set Pressure (psi)	250	260	270	275	280	290	300		
Flow (SCFM)	959	995	1032	1050	1068	1105	1141		

CV8 & CV10									
Set Pressure (psi)	25	30	35	40	45	50	55	60	65
Flow (SCFM)	292	330	368	406	444	482	520	558	597
Set Pressure (psi)	70	75	80	85	90	95	100	110	160
Flow (SCFM)	635	673	711	749	787	825	863	939	1320
Set Pressure (psi)	170	175	180	190	200	210	220	230	240
Flow (SCFM)	1396	1434	1472	1548	1624	1700	1776	1852	1929
Set Pressure (psi)	250	260	270	275	280	290	300		
Flow (SCFM)	2005	2081	2157	2195	2233	2309	2385		

CVM1 & CVM2									
Set Pressure (psi)	80	90	100	110	115	125	135	145	150
Flow (SCFM)	28	31	34	37	39	42	45	48	50
Set Pressure (psi)	165	175	180	190	200	215	225		
Flow (SCFM)	54	57	59	62	65	69	72		

**Universal  
Components  
Inc.**



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Universal  
Components  
Inc.



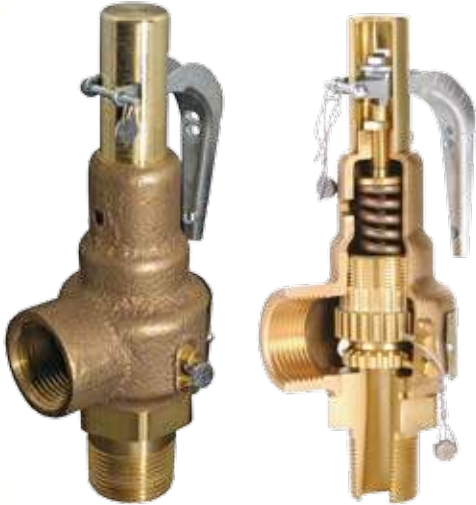
Multi Purpose  
Relief Valves



## CV19 SERIES SAFETY RELIEF VALVE

### Features:

- Bronze Construction
- Stainless Steel Spring
- Brass Cap
- ASME and CRN Certifications (CE Opt)
- Teflon® PFA Fluorocarbon Seat
- Optional Anti-Vibration Dampened Lever
- Maximum Temperature 400°F
- Set Pressure Ranges 15 - 300PSI in 5 PSI Increments



NPT SIZE Inlet X Outlet	Part #
1/2" x 3/4"	CV19-0406-**
3/4" x 3/4"	CV19-0606-**
3/4" x 1"	CV19-0608-**
1" x 1"	CV19-0808-**
1" x 1-1/4"	CV19-0810-**
1-1/4" x 1-1/4"	CV19-1010-**
1-1/4" x 1-1/2"	CV19-1012-**
1-1/2" x 1-1/2"	CV19-1212-**
1-1/2" x 2"	CV19-1216-**
2" x 2"	CV19-1616-**
2" x 2-1/2"	CV19-1620-**
2-1/2" x 2-1/2"	CV19-2020-**

### How to Order CV19 Series Safety Relief Valve

CV19

Valve  
Series

16

Inlet

04=1/2"  
06=3/4"  
08=1"  
10=1-1/4"  
12=1-1/2"  
16=2"  
20=2-1/2"

20

Outlet

06=3/4"  
08=1"  
10=1-1/4"  
12=1-1/2"  
16=2"  
20=2-1/2"

-

250

Set  
Pressure  
(PSIG)

15 - 300PSI  
in 5 PSI  
increments

A

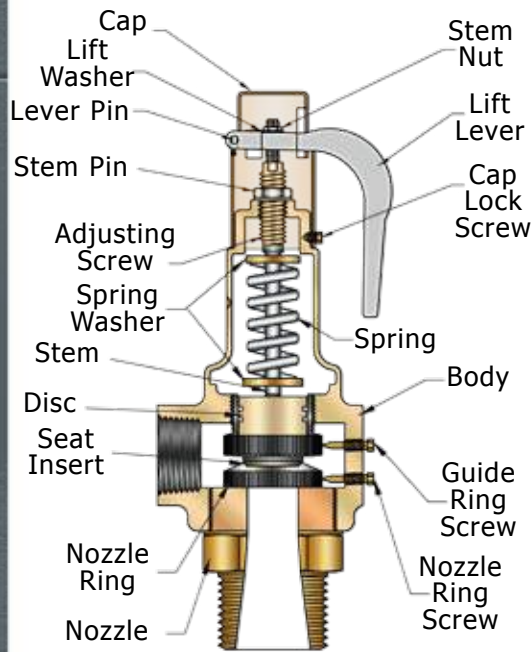
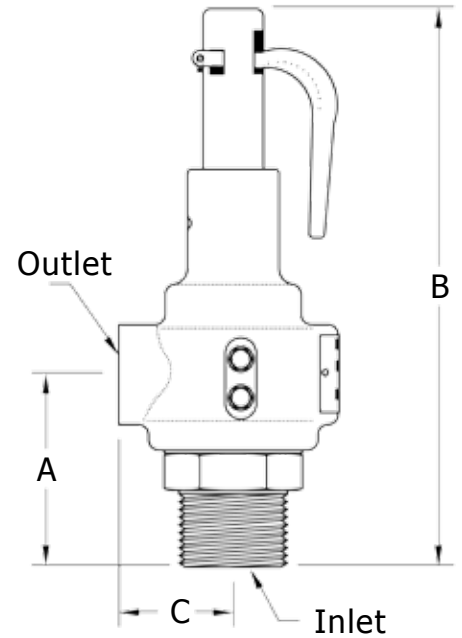
Service Media

F = Steam  V  
U = Steam  UV  
A = Air  UV



## Dimensions

PART #	A	B	C	Inlet NPT	Outlet NPT	Orifice
CV19-0406-**-	2.21	6.52	1.37	1/2"	3/4"	D
CV19-0606-**-	2.21	6.52	1.37	3/4"	3/4"	D
CV19-0608-**-	2.50	7.16	1.75	3/4"	1"	E
CV19-0808-**-	2.64	7.30	1.75	1"	1"	E
CV19-0810-**-	2.95	9.34	2.00	1"	1-1/4"	F
CV19-1010-**-	2.95	9.34	2.00	1-1/4"	1-1/4"	F
CV19-1012-**-	3.38	11.01	2.37	1-1/4"	1-1/2"	G
CV19-1212-**-	3.38	11.01	2.37	1-1/2"	1-1/2"	G
CV19-1216-**-	3.63	11.96	2.75	1-1/2"	2"	H
CV19-1616-**-	3.63	11.96	2.75	2"	2"	H
CV19-1620-**-	4.06	14.25	3.50	2"	2-1/2"	J
CV19-2020-**-	4.50	14.68	3.50	2-1/2"	2-1/2"	J



## Bill of Materials

Description	Material	Description	Material
Cap	Brass	Seat Insert	PFA Teflon®
Stem Nut	Steel (plated)	Lift Washer	Steel (plated)
Cap Lock Screw	Brass	lever Pin	Steel (plated)
Lift Lever	Steel (plated)	Adj.Screw Locknut	Steel (plated)
Body	Bronze	Adjusting Screw	Brass
Spring Washer	Brass	Spring	Stainless Steel
Giude Ring	Brass	Stem	Stainless Steel
Disc	Brass	Nozzle Ring	Brass
Guide Ring Screw	Brass	Nozzle	Brass
Nozzel Ring Screw	Brass	Nameplate	stainless Steel



## CV19 SERIES FLOW DATA

ALL SPECIFICATIONS AND DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE

**F = STEAM  
FIRED VESSELS**

ASME SECTION I-POWER BOILERS  
19 SERIES BRONZE SAFETY VALVES STEAM  
CAPACITY CHART - POWER BOILER CODE  
A.S.M.E. (V) RATING-90% OF ACTUAL  
CAPACITY AT 3% ACCUMULATION CAPACITY  
IN POUNDS OF SATURATED STEAM PER HOUR

**U = STEAM  
UNFIRED VESSELS**

ASME SECTION VIII-PRESSURE VESSEL  
19 SERIES BRONZE SAFETY VALVES STEAM  
CAPACITY CHART - PRESSURE VESSEL CODE  
A.S.M.E. (UV) RATING-90% OF ACTUAL  
CAPACITY AT 10% ACCUMULATION CAPACITY  
IN POUNDS OF SATURATED STEAM PER HOUR

**A = AIR  
UNFIRED VESSELS**

ASME SECTION VIII-PRESSURE VESSEL  
19 SERIES BRONZE SAFETY VALVES AIR  
CAPACITY CHART - PRESSURE VESSEL CODE  
A.S.M.E. (UV) RATING-90% OF ACTUAL  
CAPACITY AT 10% ACCUMULATION CAPACITY  
IN CUBIC FEET OF PER MINUTE AT 14.7 P.S.I.A.-60°F

SET Pressure (PSIG)	MODEL CV19-0406-** CV19-0606-**			MODEL CV19-0608-** CV19-0808-**			MODEL CV19-0810-** CV19-1010-**			MODEL CV19-1012-** CV19-1212-**			MODEL CV19-1216-** CV19-1616-**			MODEL CV19-1620-** CV19-2020-**		
	F	U	A	F	U	A	F	U	A	F	U	A	F	U	A	F	U	A
15	174	179	64	310	320	114	484	499	178	794	820	292	1240	1279	455	2035	2100	747
20	201	207	74	359	369	131	561	576	205	920	945	336	1435	1474	525	2356	2421	862
25	229	234	83	408	418	149	637	652	232	1045	1070	381	1631	1670	594	2677	2742	976
30	256	262	93	457	467	166	713	729	259	1170	1195	426	1826	1865	664	2998	3063	1090
35	284	292	104	506	521	185	790	813	289	1296	1333	475	2022	2080	740	3319	3416	1216
40	311	322	115	555	574	204	866	897	319	1421	1471	524	2217	2295	817	3641	3769	1342
45	339	352	125	604	628	224	942	981	349	1546	1609	573	2413	2510	894	3962	4122	1467
50	366	383	136	653	682	243	1019	1065	379	1672	1747	622	2608	2725	970	4283	4475	1593
55	394	413	147	702	736	262	1095	1149	409	1797	1885	671	2804	2941	1047	4604	4828	1719
60	421	443	158	751	790	281	1172	1233	439	1922	2022	720	2999	3156	1123	4925	5181	1844
65	448	473	168	800	844	300	1248	1317	469	2048	2160	769	3195	3371	1200	5246	5535	1970
70	476	503	179	849	897	319	1326	1401	499	2175	2298	818	3394	3586	1276	5573	5888	2096
75	505	534	190	900	951	339	1405	1485	528	2304	2436	867	3596	3801	1353	5904	6241	2221
80	533	564	201	950	1005	358	1483	1569	558	2433	2574	916	3797	4016	1429	6234	6594	2347
85	561	594	211	1001	1059	377	1562	1653	588	2563	2712	965	3998	4231	1506	6565	6947	2473
90	590	624	222	1051	1113	396	1641	1737	618	2692	2849	1014	4200	4446	1583	6896	7300	2598
95	618	654	233	1101	1167	415	1719	1821	648	2821	2987	1063	4401	4661	1659	7226	7653	2724
100	646	684	244	1152	1220	434	1798	1905	678	2950	3125	1112	4602	4876	1736	7557	8007	2850
105	674	715	254	1202	1274	454	1877	1989	708	3079	3263	1161	4804	5091	1812	7888	8360	2976
110	703	745	265	1253	1328	473	1955	2073	738	3208	3401	1211	5005	5306	1889	8218	8713	3101
115	731	775	276	1303	1382	492	2034	2157	768	3337	3539	1260	5207	5521	1965	8549	9066	3227
120	759	805	287	1353	1436	511	2113	2241	798	3466	3677	1309	5408	5736	2042	8880	9419	3353
125	787	835	297	1404	1489	530	2191	2325	828	3595	3814	1358	5609	5951	2118	9210	9772	3478
130	816	866	308	1454	1543	549	2270	2409	857	3724	3952	1407	5811	6167	2195	9541	10125	3604
135	844	896	319	1505	1597	568	2349	2493	887	3853	4090	1456	6012	6382	2271	9872	10479	3730
140	872	926	330	1555	1651	588	2427	2577	917	3982	4228	1505	6213	6597	2348	10202	10832	3855
145	900	956	340	1605	1705	607	2506	2661	947	4111	4366	1554	6415	6812	2425	10533	11185	3981
150	929	986	351	1656	1759	626	2585	2745	977	4240	4504	1603	6616	7027	2501	10864	11538	4107
160	985	1047	373	1757	1866	664	2742	2913	1037	4499	4779	1701	7019	7457	2654	11525	12224	4358
170	1042	1107	394	1857	1974	703	2899	3081	1097	4757	5055	1799	7422	7887	2807	12186	12951	4610
180	1098	1167	416	1958	2082	741	3057	3249	1156	5015	5331	1897	7824	8317	2960	12848	13657	4861
190	1155	1228	437	2059	2189	779	3214	3417	1216	5273	5606	1996	8227	8747	3114	13509	14363	5112
200	1211	1288	459	2160	2297	818	3371	3585	1276	5531	5882	2094	8630	9177	3267	14170	15069	5364
210	1268	1349	480	2261	2405	856	3529	3753	1336	5789	6158	2192	9033	9608	3420	14832	15776	5615
220	1324	1409	502	2361	2512	894	3686	3921	1396	6047	6433	2290	9436	10038	3573	15493	16482	5867
230	1381	1469	523	2462	2620	932	3843	4089	1456	6305	6709	2388	9838	10468	3726	16154	17188	6118
240	1438	1530	545	2563	2727	971	4001	4257	1515	6564	6985	2486	10241	10898	3879	16816	17894	6369
250	1494	1590	566	2664	2835	1009	4158	4425	1575	6822	7260	2584	10644	11328	4032	17477	18601	6621
260	1551	1651	587	2765	2943	1047	4315	4593	1635	7080	7536	2682	11047	11758	4185	18138	19307	6872
270	1607	1711	609	2865	3050	1086	4473	4761	1695	7338	7812	2781	11449	12188	4338	18800	20013	7124
280	1664	1771	630	2966	3158	1124	4630	4929	1755	7596	8087	2879	11852	12618	4491	19461	20720	7375
290	1720	1832	652	3067	3266	1162	4787	5097	1814	7854	8363	2977	12255	13049	4645	20122	21426	7626
300	1777	1892	673	3168	3373	1201	4945	5265	3075	8112	8639	3075	12658	13479	4798	20784	22132	7878

\*\* Designates Pressure Setting of Valve, ( Example: CV19-1212-150A )



# CV500 SERIES SAFETY RELIEF VALVE



## Features:

- Bronze, Carbon, or all Stainless Steel Construction
- Trim Design, Suitable for Steam, Air, Gas, Liquid
- Metal to Metal, PCTFE or Elastomer O-Ring Seats
- Short Tuned Blowdown and Back Pressure Tight Body Minimizes Fugitive Emissions and Product Loss
- ASME Section VIII Air, Steam and Liquid Services, Sizes 1/2" to 2" NPT Available
- Set Pressure Range 5 to 900 PSIG @ 800°F Maximum
- High Capacity full Nozzle Design, Stainless Steel Springs
- Integral Lift Stop, Self-Aligning Pivoting Disc
- API 527 Seat Tightness, Standard for all Models
- CSA B51 CRN OG8547-SC

## Options

- Screwed Cap (standard), Packed Lift Lever, Special Cleaning and Test Gags Available
- Elastomer or PCTFE Soft Seats for Exceptional Tightness
- High Temperature Alloy Springs for 422°F to 800°F Service
- Cryogenic Preparation to -400°F (consult factory)



## Soft Seat Pressure & Temperature Limits

Seat Material	Set Pressure		Temperature	
	Min.	Max.	Min.	Max.
VITON	15	900	-15°F	400°F
EPDM	15	900	-70°F	250°F
SILICONE	15	900	-60°F	450°F
NEOPRENE	15	900	-35°F	225°F
NITRIL/BUNA-N	15	900	-30°F	250°F
PCTFE	15	500	-320°F	250°F

## Metal to Metal Pressure/Temperature Ratings

Series	CV51	CV52	CV53	CV54
Body	Bronze	Bronze	Carbon	Stainless
Trim	Brass	Stainless	Stainless	Stainless
Max. Set-Steam	250 PSI	300 PSI	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J
Max. Set-Air, Gas, Liquid	300 PSI	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J
Temp. Limits	-60/406°F	-60/422°F	-20/800°F	-60/800°F

PART NO.	ORIFICE		PART NO.	ORIFICE	
	GROUP	INLET/OUTLET		GROUP	INLET/OUTLET
CV5**-0406	D	1/2" MNPT X 3/4" FNPT*	CV5**-1012	F	1-1/4" MNPT X 1-1/2" FNPT
CV5**-0408	D	1/2" MNPT X 1" FNPT	CV5**-1016	G	1-1/4" MNPT X 2" FNPT
CV5**-0606	D	3/4" MNPT X 3/4" FNPT*	CV5**-1216	G	1-1/2" MNPT X 2" FNPT
CV5**-0608	D	3/4" MNPT X 1" FNPT	CV5**-1220	H	1-1/2" MNPT X 2-1/2" FNPT
CV5**-0610	E	3/4" MNPT X 1-1/4" FNPT	CV5**-1620	H	2" MNPT X 2-1/2" FNPT
CV5**-0810	E	1" MNPT X 1-1/4" FNPT	CV5**-1624	J	2" MNPT X 3" FNPT
CV5**-0812	F	1" MNPT X 1-1/2" FNPT	* Available in series CV51 & CV52 Only		



# CV500 SERIES SAFETY RELIEF VALVE

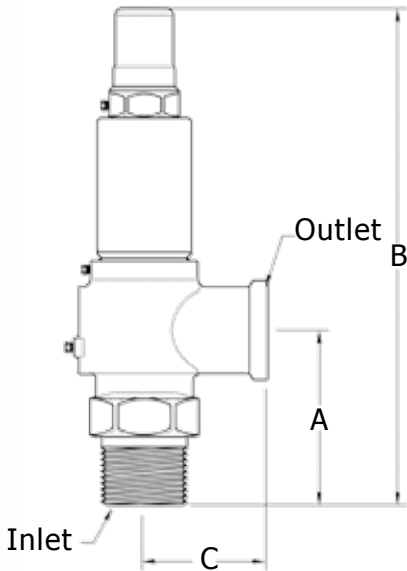
## How to Order CV500 Series Relief Valve

**CV51** - **1** - **0406** - **325** **M** **K** **D** **HT**

Series	Cap	Size	Set Pressure	Seat	Service Code	Orifice Group	Special Options
<b>CV51</b> = Bronze/Brass	<b>1</b> = Screwed Cap	0406* 1012	5-900 PSI Available	<b>M</b> =Metal	<b>J</b> = Sec VIII liquid	<b>D</b>	<b>HT</b> - High Temperature Spring <b>OX</b> = Cleaned for Oxygen (if no options needed leave blank)
<b>CV52</b> = Bronze/ Stainless	<b>2</b> = Screwed+gag	0408 1016		<b>B</b> =Buna-n	<b>K</b> = Sec VIII air/gas	<b>E</b>	
<b>CV53</b> = Carbon/ Stainless	<b>3</b> = Packed Lever	0606* 1216		<b>E</b> =EPDM	<b>L</b> = Sec VIII steam	<b>F</b>	
<b>CV54</b> = All Stainless	<b>4</b> = Packed+gag	0608 1220 0610 1620 0810 1624 0812		<b>K</b> =PCTFE <b>N</b> =Neoprene <b>S</b> =Silicone <b>V</b> =Viton	<b>M</b> = Non Code liquid <b>N</b> = Non Code air/gas <b>P</b> = Non Code steam <b>Q</b> = Vacuum	<b>G</b> <b>H</b> <b>J</b>	

- Note:**
1. The ASME Code Section VIII requires a lift lever for the following services: air, steam or hot water over 140°F
  2. Maximum back pressure is 50 PSIG
  3. High temperature stainless steel alloy spring is required above 422°F/217°C Specify option "HT"

## Dimensions



PART #	A	B	C	Inlet NPT	Outlet NPT	Orifice
CV5**0406	2.38	7.50	1.63	1/2"	3/4"	D
CV5**0408	2.38	7.50	1.63	1/2"	1"	D
CV5**0606	2.38	7.50	1.63	3/4"	3/4"	D
CV5**0608	2.38	7.50	1.63	3/4"	1"	D
CV5**0610	2.63	9.00	2.00	3/4"	1-1/4"	E
CV5**0810	2.63	9.00	2.00	1"	1-1/4"	E
CV5**0812	2.83	10.25	2.38	1"	1-1/2"	F
CV5**1012	2.83	10.25	2.38	1-1/4"	1-1/2"	F
CV5**1016	3.25	13.25	2.63	1-1/4"	2"	G
CV5**1216	3.25	13.25	2.68	1-1/2"	2"	G
CV5**1220	3.50	15.00	2.75	1-1/2"	2-1/2"	H
CV5**1620	3.50	15.00	2.75	2"	2-1/2"	H
CV5**1624	4.00	17.00	3.25	2"	3"	J

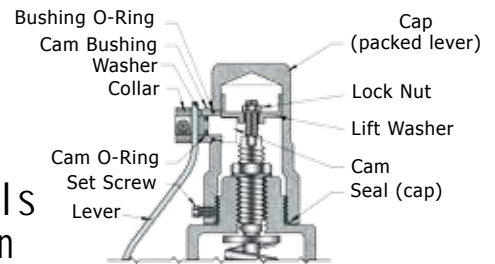
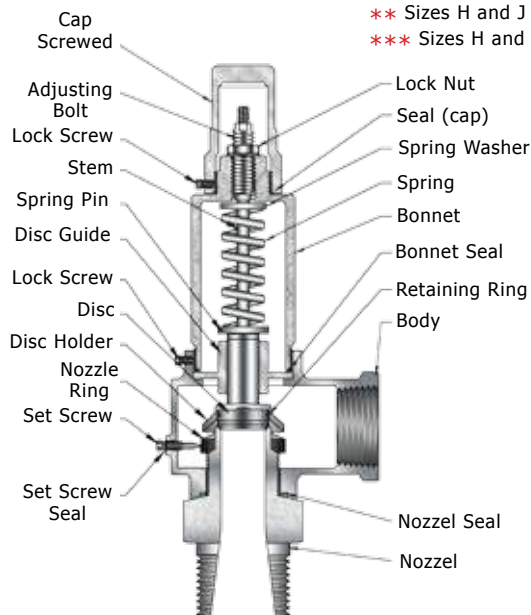


# CV500 SERIES SAFETY RELIEF VALVE

## Bill of Materials

Description	Material 510 Series	Material 520 Series	Material 530 Series	Material 540 Series
Body	Bronze B-584-C844	Bronze B-584-C844	Steel SA-216 WCB	S.S. SA-351-CF8M
Bonnet	Brass *	Brass *	Steel **	316 Stainless Steel ***
Bonnet Seal	PTFE	PTFE	PTFE	PTFE
Nozzel	Brass B-16	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Nozzel Seal	PTFE	PTFE	PTFE	PTFE
Nozzel Ring	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Set Screw	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Set Screw Seal	PTFE	PTFE	PTFE	PTFE
Disc Holder	Brass	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Disc	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Retaining Ring	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Disc Guide	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Stem	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Spring Pin	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Spring Washer	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Adjusting Bolt	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Lock Nut	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Spring	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Spring (High Temp)	Inconel	Inconel	Inconel	Inconel
Lock Screw	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Cap (screwed)	Brass	Brass	Steel	316 Stainless Steel
Seal (Cap)	Viton	Viton	Viton	Viton
Nameplate	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Drive Screw	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Seal & Wire	Lead/Stainless Steel	Lead/Stainless Steel	Lead/Stainless Steel	Lead/Stainless Steel

Note: \* Sizes G,H and J are Cast Bronze  
 \*\* Sizes H and J are Cast Steel  
 \*\*\* Sizes H and J are Cast Stainless Steel Type 316



## Bill of Materials Lift Lever Option

Description	Material 513,523 Series	Material 533 Series	Material 543 Series
Cap (Packed Lever)	Brass	Steel	316 Stainless Steel
Cam	Stainless Steel	Stainless Steel	Stainless Steel
Lever	Stainless Steel	Stainless Steel	Stainless Steel
Lift Washer	Stainless Steel	Stainless Steel	Stainless Steel
Locknut	Stainless Steel	Stainless Steel	Stainless Steel
Collar	Stainless Steel	Stainless Steel	Stainless Steel
Cam Bushing	Brass	Stainless Steel	Stainless Steel
Cam O-Ring	Viton	Viton	Viton
Bushing O-Ring	Viton	Viton	Viton
Seal (cap)	Viton	Viton	Viton
Set Screw	Stainless Steel	Stainless Steel	Stainless Steel
Washer	PTFE	PTFE	PTFE



# CV500 SERIES FLOW DATA

ALL SPECIFICATIONS AND DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE

## AIR
















ASME SECTION VIII Air  
Standard Cubic Feet Per Minute  
of Air at 10% Overpressure  
National Board Certified  
Ratings are 90% of Actual

## STEAM

ASME SECTION VIII Steam  
Pounds Per Hour Steam  
at 10% Overpressure  
National Board Certified  
Ratings are 90% of Actual

## LIQUID

ASME SECTION VIII Liquid  
U.S. Gallons Per Minute of Water  
at 10% Overpressure  
National Board Certified  
Ratings are 90% of Actual

D		E			F			G			H			J					
AREA SQ.IN		0.1295			0.2282			0.3589			0.5890			0.9195			1.5044		
SET PRESSURE	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM	
																			
5*	39	122	13	69	216	24	108	339	37	178	557	61	277	869	95	454	1422	156	
10*	54	168	14	96	295	24	151	465	38	248	762	63	387	1190	98	633	1947	161	
15	67	188	14	118	331	25	185	520	40	304	853	65	474	1332	102	776	2180	167	
20	77	216	16	136	381	29	213	600	45	350	984	74	547	1536	115	895	2513	189	
25	87	245	18	154	432	32	242	679	50	397	1114	82	619	1740	127	1013	2846	208	
30	97	274	19	172	482	34	270	759	54	443	1245	89	692	1943	138	1132	3180	226	
35	109	305	21	191	538	37	301	846	58	494	1388	96	772	2168	149	1262	3546	244	
40	120	337	22	211	593	40	332	934	62	545	1532	102	851	2392	160	1393	3913	261	
45	131	368	24	231	649	42	363	1021	66	596	1676	108	931	2616	169	1523	4280	277	
50	142	400	25	251	705	44	395	1108	70	648	1819	114	1011	2840	178	1654	4646	292	
55	154	431	26	271	760	46	426	1196	73	699	1963	120	1091	3064	187	1784	5013	306	
60	165	463	28	290	816	48	457	1283	76	750	2106	125	1170	3288	195	1915	5380	320	
65	176	494	29	310	872	50	488	1371	79	801	2250	130	1250	3512	203	2045	5746	333	
70	187	526	30	330	927	52	519	1458	82	852	2393	135	1330	3736	211	2176	6113	345	
75	198	558	31	350	983	54	550	1546	85	903	2537	140	1410	3960	218	2306	6479	357	
80	210	589	32	370	1038	56	581	1633	88	954	2680	145	1489	4184	226	2437	6846	369	
85	221	621	33	389	1094	58	612	1721	91	1005	2824	149	1569	4408	233	2567	7213	381	
90	232	652	34	409	1150	59	644	1808	93	1056	2968	153	1649	4632	239	2698	7579	392	
95	243	684	35	429	1205	61	675	1896	96	1107	3111	158	1729	4857	246	2828	7946	402	
100	255	715	36	449	1261	63	706	1983	98	1158	3255	162	1808	5081	252	2959	8313	413	
125	311	873	40	548	1539	70	862	2421	110	1414	3972	181	2207	6201	282	3611	10146	462	
150	367	1031	44	647	1817	77	1017	2858	121	1669	4690	198	2606	7322	309	4264	11979	506	
175	423	1189	47	746	2095	83	1179	3295	130	1925	5408	214	3005	8442	334	4916	13812	546	
200	479	1346	50	845	2373	89	1329	3733	139	2180	6126	229	3404	9562	357	5569	15645	584	
225	535	1504	53	944	2651	94	1484	4170	148	2436	6843	242	3802	10683	378	6221	17478	619	
250	592	1662	56	1043	2929	99	1640	4607	156	2691	7561	256	4201	11803	399	6874	19312	653	
275	648	1820	59	1142	3207	104	1796	5045	163	2947	8279	268	4600	12924	418	7526	21145	685	
300	704	1977	62	1240	3485	108	1951	5482	171	3202	8997	280	4999	14044	437	8179	22978	715	
325	760	2135	64	1339	3763	113	2107	5919	178	3458	9714	291	5398	15165	455	8831	24811	744	
350	816	2293	66	1438	4041	117	2263	6357	184	3713	10432	302	5796	16285	472	9484	26644	772	
375	872	2451	69	1537	4319	121	2418	6794	191	3969	11150	313	6195	17405	489	10136	28477	799	
400	928	2608	71	1636	4597	125	2574	7231	197	4224	11867	323	6594	18526	505	10789	30311	826	
425	985	2766	73	1735	4875	129	2730	7669	203	4480	12585	333	6993	19646	520	11441	32144	851	
450	1041	2924	75	1834	5153	133	2885	8106	209	4735	13303	343	7392	20767	535	12094	33977	876	
475	1097	3082	77	1933	5431	136	3041	8543	215	4991	14021	352	7791	21887	550	12746	35810	900	
500	1153	3239	79	2032	5709	140	3197	8981	220	5246	14738	361	8189	23008	564	13399	37643	923	
525	1209	3397	81	2131	5987	143	3352	9418	226	5501	15456	370							
550	1265	3555	83	2230	6266	147	3508	9855	231	5757	16174	379							
575	1321	3713	85	2329	6544	150	3664	10293	236	6012	16892	388							
600	1378	3870	87	2428	6822	153	3819	10730	241	6268	17609	396							
625	1434	4028	89	2527	7100	157													
650	1490	4186	91	2626	7378	160													
675	1546	4344	92	2725	7656	163													
700	1602	4501	94	2824	7934	166													
725	1658	4659	96	2923	8212	169													
750	1715	4817	97	3022	8490	171													
775	1771	4975	99	3121	8768	174													
800	1827	5132	100	3220	9046	177													
825	1883	5290	102	3319	9324	180													
850	1939	5448	104	3418	9602	183													
875	1995	5606	105	3517	9880	185													
900	2051	5763	107	3616	10158	188													

\* Pressure Settings Below 15 PSIG are Non-ASME Code

Universal  
Components  
Inc.



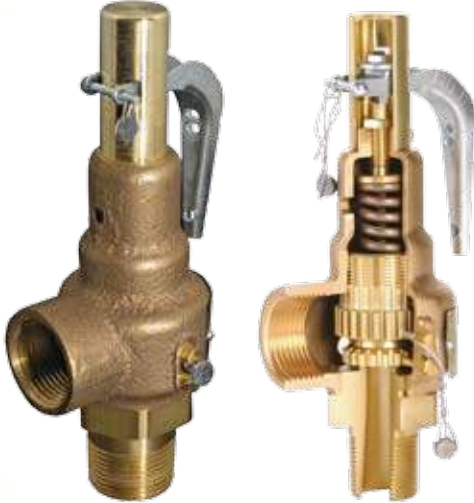
Multi Purpose  
Relief Valves



## CV19 SERIES SAFETY RELIEF VALVE

### Features:

- Bronze Construction
- Stainless Steel Spring
- Brass Cap
- ASME and CRN Certifications (CE Opt)
- Teflon® PFA Fluorocarbon Seat
- Optional Anti-Vibration Dampened Lever
- Maximum Temperature 400°F
- Set Pressure Ranges 15 - 300PSI in 5 PSI Increments



NPT SIZE Inlet X Outlet	Part #
1/2" x 3/4"	CV19-0406-**
3/4" x 3/4"	CV19-0606-**
3/4" x 1"	CV19-0608-**
1" x 1"	CV19-0808-**
1" x 1-1/4"	CV19-0810-**
1-1/4" x 1-1/4"	CV19-1010-**
1-1/4" x 1-1/2"	CV19-1012-**
1-1/2" x 1-1/2"	CV19-1212-**
1-1/2" x 2"	CV19-1216-**
2" x 2"	CV19-1616-**
2" x 2-1/2"	CV19-1620-**
2-1/2" x 2-1/2"	CV19-2020-**

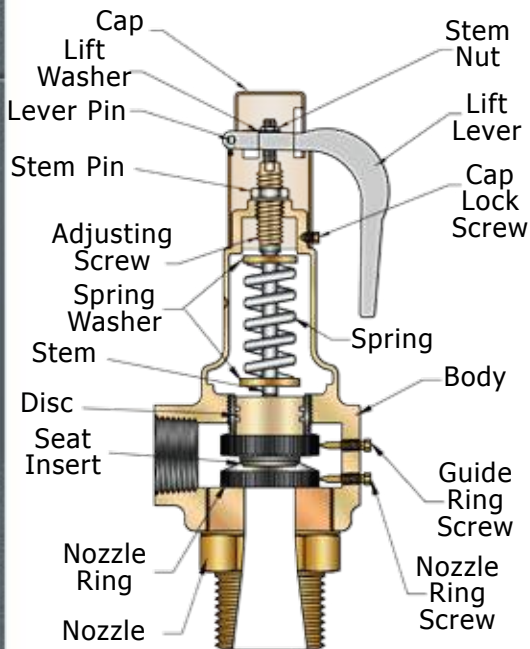
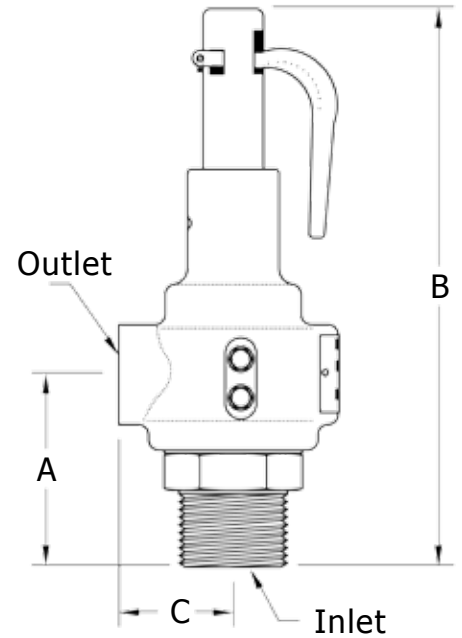
### How to Order CV19 Series Safety Relief Valve

<b>CV19</b>	<b>16</b>	<b>20</b>	<b>-</b>	<b>250</b>	<b>A</b>
Valve Series	Inlet	Outlet	Set Pressure (PSIG)	Service Media	
	04=1/2"	06=3/4"	15 - 300PSI in 5 PSI increments	F = Steam	<input type="checkbox"/> V
	06=3/4"	08=1"		U = Steam	<input type="checkbox"/> UV
	08=1"	10=1-1/4"		A = Air	<input type="checkbox"/> UV
	10=1-1/4"	12=1-1/2"			
	12=1-1/2"	16=2"			
	16=2"	20=2-1/2"			
	20=2-1/2"				



## Dimensions

PART #	A	B	C	Inlet NPT	Outlet NPT	Orifice
CV19-0406-**	2.21	6.52	1.37	1/2"	3/4"	D
CV19-0606-**	2.21	6.52	1.37	3/4"	3/4"	D
CV19-0608-**	2.50	7.16	1.75	3/4"	1"	E
CV19-0808-**	2.64	7.30	1.75	1"	1"	E
CV19-0810-**	2.95	9.34	2.00	1"	1-1/4"	F
CV19-1010-**	2.95	9.34	2.00	1-1/4"	1-1/4"	F
CV19-1012-**	3.38	11.01	2.37	1-1/4"	1-1/2"	G
CV19-1212-**	3.38	11.01	2.37	1-1/2"	1-1/2"	G
CV19-1216-**	3.63	11.96	2.75	1-1/2"	2"	H
CV19-1616-**	3.63	11.96	2.75	2"	2"	H
CV19-1620-**	4.06	14.25	3.50	2"	2-1/2"	J
CV19-2020-**	4.50	14.68	3.50	2-1/2"	2-1/2"	J



## Bill of Materials

Description	Material	Description	Material
Cap	Brass	Seat Insert	PFA Teflon®
Stem Nut	Steel (plated)	Lift Washer	Steel (plated)
Cap Lock Screw	Brass	Lever Pin	Steel (plated)
Lift Lever	Steel (plated)	Adj.Screw Locknut	Steel (plated)
Body	Bronze	Adjusting Screw	Brass
Spring Washer	Brass	Spring	Stainless Steel
Guide Ring	Brass	Stem	Stainless Steel
Disc	Brass	Nozzle Ring	Brass
Guide Ring Screw	Brass	Nozzle	Brass
Nozzle Ring Screw	Brass	Nameplate	stainless Steel



## CV19 SERIES FLOW DATA

ALL SPECIFICATIONS AND DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE

**F =  STEAM  
FIRED VESSELS**



















ASME SECTION I-POWER BOILERS  
19 SERIES BRONZE SAFETY VALVES STEAM  
CAPACITY CHART - POWER BOILER CODE  
A.S.M.E. (V) RATING-90% OF ACTUAL  
CAPACITY AT 3% ACCUMULATION CAPACITY  
IN POUNDS OF SATURATED STEAM PER HOUR

**U =  STEAM  
UNFIRED VESSELS**

ASME SECTION VIII-PRESSURE VESSEL  
19 SERIES BRONZE SAFETY VALVES STEAM  
CAPACITY CHART - PRESSURE VESSEL CODE  
A.S.M.E. (UV) RATING-90% OF ACTUAL  
CAPACITY AT 10% ACCUMULATION CAPACITY  
IN POUNDS OF SATURATED STEAM PER HOUR

**A =  AIR  
UNFIRED VESSELS**

ASME SECTION VIII-PRESSURE VESSEL  
19 SERIES BRONZE SAFETY VALVES AIR  
CAPACITY CHART - PRESSURE VESSEL CODE  
A.S.M.E. (UV) RATING-90% OF ACTUAL  
CAPACITY AT 10% ACCUMULATION CAPACITY  
IN CUBIC FEET OF PER MINUTE AT 14.7 P.S.I.A.-60°F

SET Pressure (PSIG)	MODEL CV19-0406-** CV19-0606-**			MODEL CV19-0608-** CV19-0808-**			MODEL CV19-0810-** CV19-1010-**			MODEL CV19-1012-** CV19-1212-**			MODEL CV19-1216-** CV19-1616-**			MODEL CV19-1620-** CV19-2020-**		
	F	U	A	F	U	A	F	U	A	F	U	A	F	U	A	F	U	A
																		
15	174	179	64	310	320	114	484	499	178	794	820	292	1240	1279	455	2035	2100	747
20	201	207	74	359	369	131	561	576	205	920	945	336	1435	1474	525	2356	2421	862
25	229	234	83	408	418	149	637	652	232	1045	1070	381	1631	1670	594	2677	2742	976
30	256	262	93	457	467	166	713	729	259	1170	1195	426	1826	1865	664	2998	3063	1090
35	284	292	104	506	521	185	790	813	289	1296	1333	475	2022	2080	740	3319	3416	1216
40	311	322	115	555	574	204	866	897	319	1421	1471	524	2217	2295	817	3641	3769	1342
45	339	352	125	604	628	224	942	981	349	1546	1609	573	2413	2510	894	3962	4122	1467
50	366	383	136	653	682	243	1019	1065	379	1672	1747	622	2608	2725	970	4283	4475	1593
55	394	413	147	702	736	262	1095	1149	409	1797	1885	671	2804	2941	1047	4604	4828	1719
60	421	443	158	751	790	281	1172	1233	439	1922	2022	720	2999	3156	1123	4925	5181	1844
65	448	473	168	800	844	300	1248	1317	469	2048	2160	769	3195	3371	1200	5246	5535	1970
70	476	503	179	849	897	319	1326	1401	499	2175	2298	818	3394	3586	1276	5573	5888	2096
75	505	534	190	900	951	339	1405	1485	528	2304	2436	867	3596	3801	1353	5904	6241	2221
80	533	564	201	950	1005	358	1483	1569	558	2433	2574	916	3797	4016	1429	6234	6594	2347
85	561	594	211	1001	1059	377	1562	1653	588	2563	2712	965	3998	4231	1506	6565	6947	2473
90	590	624	222	1051	1113	396	1641	1737	618	2692	2849	1014	4200	4446	1583	6896	7300	2598
95	618	654	233	1101	1167	415	1719	1821	648	2821	2987	1063	4401	4661	1659	7226	7653	2724
100	646	684	244	1152	1220	434	1798	1905	678	2950	3125	1112	4602	4876	1736	7557	8007	2850
105	674	715	254	1202	1274	454	1877	1989	708	3079	3263	1161	4804	5091	1812	7888	8360	2976
110	703	745	265	1253	1328	473	1955	2073	738	3208	3401	1211	5005	5306	1889	8218	8713	3101
115	731	775	276	1303	1382	492	2034	2157	768	3337	3539	1260	5207	5521	1965	8549	9066	3227
120	759	805	287	1353	1436	511	2113	2241	798	3466	3677	1309	5408	5736	2042	8880	9419	3353
125	787	835	297	1404	1489	530	2191	2325	828	3595	3814	1358	5609	5951	2118	9210	9772	3478
130	816	866	308	1454	1543	549	2270	2409	857	3724	3952	1407	5811	6167	2195	9541	10125	3604
135	844	896	319	1505	1597	568	2349	2493	887	3853	4090	1456	6012	6382	2271	9872	10479	3730
140	872	926	330	1555	1651	588	2427	2577	917	3982	4228	1505	6213	6597	2348	10202	10832	3855
145	900	956	340	1605	1705	607	2506	2661	947	4111	4366	1554	6415	6812	2425	10533	11185	3981
150	929	986	351	1656	1759	626	2585	2745	977	4240	4504	1603	6616	7027	2501	10864	11538	4107
160	985	1047	373	1757	1866	664	2742	2913	1037	4499	4779	1701	7019	7457	2654	11525	12224	4358
170	1042	1107	394	1857	1974	703	2899	3081	1097	4757	5055	1799	7422	7887	2807	12186	12951	4610
180	1098	1167	416	1958	2082	741	3057	3249	1156	5015	5331	1897	7824	8317	2960	12848	13657	4861
190	1155	1228	437	2059	2189	779	3214	3417	1216	5273	5606	1996	8227	8747	3114	13509	14363	5112
200	1211	1288	459	2160	2297	818	3371	3585	1276	5531	5882	2094	8630	9177	3267	14170	15069	5364
210	1268	1349	480	2261	2405	856	3529	3753	1336	5789	6158	2192	9033	9608	3420	14832	15776	5615
220	1324	1409	502	2361	2512	894	3686	3921	1396	6047	6433	2290	9436	10038	3573	15493	16482	5867
230	1381	1469	523	2462	2620	932	3843	4089	1456	6305	6709	2388	9838	10468	3726	16154	17188	6118
240	1438	1530	545	2563	2727	971	4001	4257	1515	6564	6985	2486	10241	10898	3879	16816	17894	6369
250	1494	1590	566	2664	2835	1009	4158	4425	1575	6822	7260	2584	10644	11328	4032	17477	18601	6621
260	1551	1651	587	2765	2943	1047	4315	4593	1635	7080	7536	2682	11047	11758	4185	18138	19307	6872
270	1607	1711	609	2865	3050	1086	4473	4761	1695	7338	7812	2781	11449	12188	4338	18800	20013	7124
280	1664	1771	630	2966	3158	1124	4630	4929	1755	7596	8087	2879	11852	12618	4491	19461	20720	7375
290	1720	1832	652	3067	3266	1162	4787	5097	1814	7854	8363	2977	12255	13049	4645	20122	21426	7626
300	1777	1892	673	3168	3373	1201	4945	5265	3075	8112	8639	3075	12658	13479	4798	20784	22132	7878

\*\* Designates Pressure Setting of Valve, ( Example: CV19-1212-150A )



# CV500 SERIES SAFETY RELIEF VALVE



## Features:

- Bronze, Carbon, or all Stainless Steel Construction
- Trim Design, Suitable for Steam, Air, Gas, Liquid
- Metal to Metal, PCTFE or Elastomer O-Ring Seats
- Short Tuned Blowdown and Back Pressure Tight Body Minimizes Fugitive Emissions and Product Loss
- ASME Section VIII Air, Steam and Liquid Services, Sizes 1/2" to 2" NPT Available
- Set Pressure Range 5 to 900 PSIG @ 800°F Maximum
- High Capacity full Nozzle Design, Stainless Steel Springs
- Integral Lift Stop, Self-Aligning Pivoting Disc
- API 527 Seat Tightness, Standard for all Models
- CSA B51 CRN OG8547-SC

## Options

- Screwed Cap (standard), Packed Lift Lever, Special Cleaning and Test Gags Available
- Elastomer or PCTFE Soft Seats for Exceptional Tightness
- High Temperature Alloy Springs for 422°F to 800°F Service
- Cryogenic Preparation to -400°F (consult factory)



## Soft Seat Pressure & Temperature Limits

Seat Material	Set Pressure		Temperature	
	Min.	Max.	Min.	Max.
VITON	15	900	-15°F	400°F
EPDM	15	900	-70°F	250°F
SILICONE	15	900	-60°F	450°F
NEOPRENE	15	900	-35°F	225°F
NITRIL/BUNA-N	15	900	-30°F	250°F
PCTFE	15	500	-320°F	250°F

## Metal to Metal Pressure/Temperature Ratings

Series	CV51	CV52	CV53	CV54
Body	Bronze	Bronze	Carbon	Stainless
Trim	Brass	Stainless	Stainless	Stainless
Max. Set-Steam	250 PSI	300 PSI	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J
Max. Set-Air, Gas, Liquid	300 PSI	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J	900 PSIG D/E 600 PSIG F/G 500 PSIG H/J
Temp. Limits	-60/406°F	-60/422°F	-20/800°F	-60/800°F

PART NO.	ORIFICE GROUP	INLET/OUTLET	PART NO.	ORIFICE GROUP	INLET/OUTLET
CV5**-0406	D	1/2" MNPT X 3/4" FNPT*	CV5**-1012	F	1-1/4" MNPT X 1-1/2" FNPT
CV5**-0408	D	1/2" MNPT X 1" FNPT	CV5**-1016	G	1-1/4" MNPT X 2" FNPT
CV5**-0606	D	3/4" MNPT X 3/4" FNPT*	CV5**-1216	G	1-1/2" MNPT X 2" FNPT
CV5**-0608	D	3/4" MNPT X 1" FNPT	CV5**-1220	H	1-1/2" MNPT X 2-1/2" FNPT
CV5**-0610	E	3/4" MNPT X 1-1/4" FNPT	CV5**-1620	H	2" MNPT X 2-1/2" FNPT
CV5**-0810	E	1" MNPT X 1-1/4" FNPT	CV5**-1624	J	2" MNPT X 3" FNPT
CV5**-0812	F	1" MNPT X 1-1/2" FNPT	* Available in series CV51 & CV52 Only		



# CV500 SERIES SAFETY RELIEF VALVE

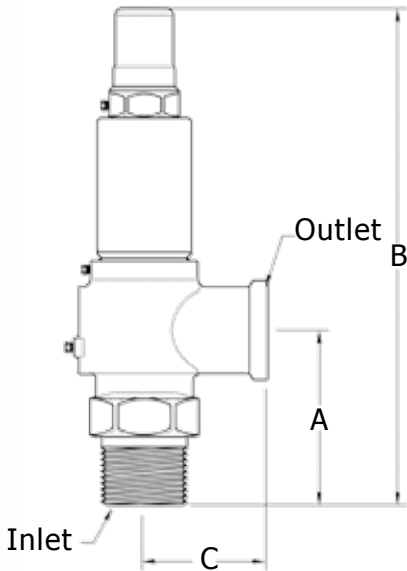
## How to Order CV500 Series Relief Valve

**CV51** - **1** - **0406** - **325** - **M** - **K** - **D** - **HT**

Series	Cap	Size	Set Pressure	Seat	Service Code	Orifice Group	Special Options
<b>CV51</b> = Bronze/Brass	<b>1</b> = Screwed Cap	0406* 1012	5-900 PSI Available	<b>M</b> =Metal	<b>J</b> = Sec VIII liquid	<b>D</b>	<b>HT</b> - High Temperature Spring <b>OX</b> = Cleaned for Oxygen (if no options needed leave blank)
<b>CV52</b> = Bronze/ Stainless	<b>2</b> = Screwed+gag	0408 1016		<b>B</b> =Buna-n	<b>K</b> = Sec VIII air/gas	<b>E</b>	
<b>CV53</b> = Carbon/ Stainless	<b>3</b> = Packed Lever	0606* 1216		<b>E</b> =EPDM	<b>L</b> = Sec VIII steam	<b>F</b>	
<b>CV54</b> = All Stainless	<b>4</b> = Packed+gag	0608 1220 0610 1620 0810 1624 0812		<b>K</b> =PCTFE <b>N</b> =Neoprene <b>S</b> =Silicone <b>V</b> =Viton	<b>M</b> = Non Code liquid <b>N</b> = Non Code air/gas <b>P</b> = Non Code steam <b>Q</b> = Vacuum	<b>G</b> <b>H</b> <b>J</b>	

- Note:**
1. The ASME Code Section VIII requires a lift lever for the following services: air, steam or hot water over 140°F
  2. Maximum back pressure is 50 PSIG
  3. High temperature stainless steel alloy spring is required above 422°F/217°C Specify option "HT"

## Dimensions



PART #	A	B	C	Inlet NPT	Outlet NPT	Orifice
CV5**0406	2.38	7.50	1.63	1/2"	3/4"	D
CV5**0408	2.38	7.50	1.63	1/2"	1"	D
CV5**0606	2.38	7.50	1.63	3/4"	3/4"	D
CV5**0608	2.38	7.50	1.63	3/4"	1"	D
CV5**0610	2.63	9.00	2.00	3/4"	1-1/4"	E
CV5**0810	2.63	9.00	2.00	1"	1-1/4"	E
CV5**0812	2.83	10.25	2.38	1"	1-1/2"	F
CV5**1012	2.83	10.25	2.38	1-1/4"	1-1/2"	F
CV5**1016	3.25	13.25	2.63	1-1/4"	2"	G
CV5**1216	3.25	13.25	2.68	1-1/2"	2"	G
CV5**1220	3.50	15.00	2.75	1-1/2"	2-1/2"	H
CV5**1620	3.50	15.00	2.75	2"	2-1/2"	H
CV5**1624	4.00	17.00	3.25	2"	3"	J

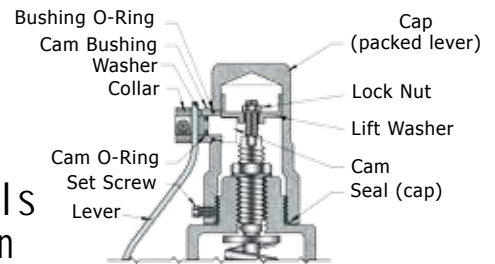
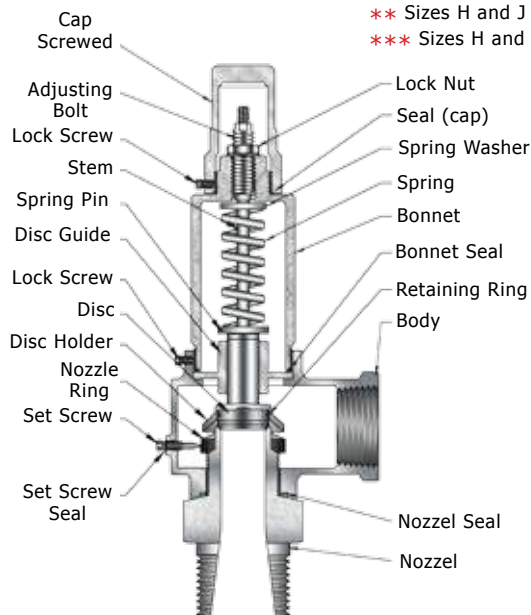


# CV500 SERIES SAFETY RELIEF VALVE

## Bill of Materials

Description	Material 510 Series	Material 520 Series	Material 530 Series	Material 540 Series
Body	Bronze B-584-C844	Bronze B-584-C844	Steel SA-216 WCB	S.S. SA-351-CF8M
Bonnet	Brass *	Brass *	Steel **	316 Stainless Steel ***
Bonnet Seal	PTFE	PTFE	PTFE	PTFE
Nozzel	Brass B-16	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Nozzel Seal	PTFE	PTFE	PTFE	PTFE
Nozzel Ring	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Set Screw	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Set Screw Seal	PTFE	PTFE	PTFE	PTFE
Disc Holder	Brass	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Disc	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel	316 Stainless Steel
Retaining Ring	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Disc Guide	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Stem	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Spring Pin	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Spring Washer	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Adjusting Bolt	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Lock Nut	Brass	Brass	316 Stainless Steel	316 Stainless Steel
Spring	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Spring (High Temp)	Inconel	Inconel	Inconel	Inconel
Lock Screw	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Cap (screwed)	Brass	Brass	Steel	316 Stainless Steel
Seal (Cap)	Viton	Viton	Viton	Viton
Nameplate	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Drive Screw	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Seal & Wire	Lead/Stainless Steel	Lead/Stainless Steel	Lead/Stainless Steel	Lead/Stainless Steel

Note: \* Sizes G,H and J are Cast Bronze  
 \*\* Sizes H and J are Cast Steel  
 \*\*\* Sizes H and J are Cast Stainless Steel Type 316



## Bill of Materials Lift Lever Option

Description	Material 513,523 Series	Material 533 Series	Material 543 Series
Cap (Packed Lever)	Brass	Steel	316 Stainless Steel
Cam	Stainless Steel	Stainless Steel	Stainless Steel
Lever	Stainless Steel	Stainless Steel	Stainless Steel
Lift Washer	Stainless Steel	Stainless Steel	Stainless Steel
Locknut	Stainless Steel	Stainless Steel	Stainless Steel
Collar	Stainless Steel	Stainless Steel	Stainless Steel
Cam Bushing	Brass	Stainless Steel	Stainless Steel
Cam O-Ring	Viton	Viton	Viton
Bushing O-Ring	Viton	Viton	Viton
Seal (cap)	Viton	Viton	Viton
Set Screw	Stainless Steel	Stainless Steel	Stainless Steel
Washer	PTFE	PTFE	PTFE



# CV500 SERIES FLOW DATA

ALL SPECIFICATIONS AND DIMENSIONS SUBJECT TO CHANGE WITHOUT NOTICE

## AIR

ASME SECTION VIII Air  
Standard Cubic Feet Per Minute  
of Air at 10% Overpressure  
National Board Certified  
Ratings are 90% of Actual

## STEAM

ASME SECTION VIII Steam  
Pounds Per Hour Steam  
at 10% Overpressure  
National Board Certified  
Ratings are 90% of Actual

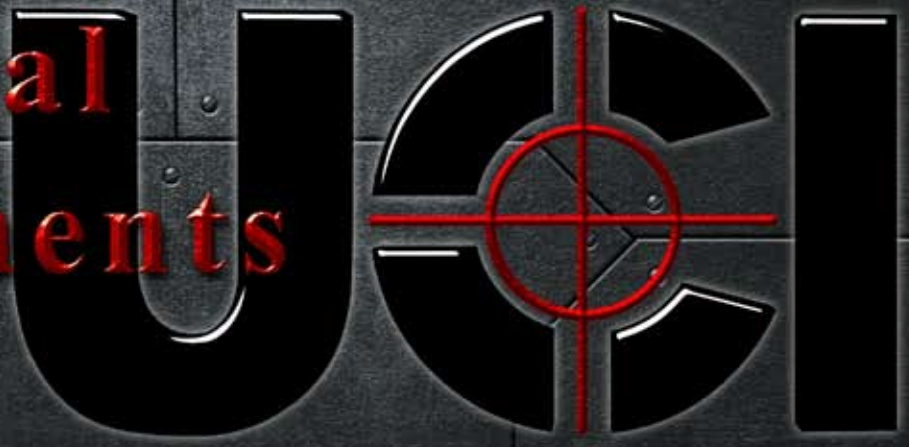
## LIQUID

ASME SECTION VIII Liquid  
U.S. Gallons Per Minute of Water  
at 10% Overpressure  
National Board Certified  
Ratings are 90% of Actual

D			E			F			G			H			J					
AREA SQ.IN			0.1295			0.2282			0.3589			0.5890			0.9195			1.5044		
SET PRESSURE	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM	SCFM	LB/hr	GPM		
5*	39	122	13	69	216	24	108	339	37	178	557	61	277	869	95	454	1422	156		
10*	54	168	14	96	295	24	151	465	38	248	762	63	387	1190	98	633	1947	161		
15	67	188	14	118	331	25	185	520	40	304	853	65	474	1332	102	776	2180	167		
20	77	216	16	136	381	29	213	600	45	350	984	74	547	1536	115	895	2513	189		
25	87	245	18	154	432	32	242	679	50	397	1114	82	619	1740	127	1013	2846	208		
30	97	274	19	172	482	34	270	759	54	443	1245	89	692	1943	138	1132	3180	226		
35	109	305	21	191	538	37	301	846	58	494	1388	96	772	2168	149	1262	3546	244		
40	120	337	22	211	593	40	332	934	62	545	1532	102	851	2392	160	1393	3913	261		
45	131	368	24	231	649	42	363	1021	66	596	1676	108	931	2616	169	1523	4280	277		
50	142	400	25	251	705	44	395	1108	70	648	1819	114	1011	2840	178	1654	4646	292		
55	154	431	26	271	760	46	426	1196	73	699	1963	120	1091	3064	187	1784	5013	306		
60	165	463	28	290	816	48	457	1283	76	750	2106	125	1170	3288	195	1915	5380	320		
65	176	494	29	310	872	50	488	1371	79	801	2250	130	1250	3512	203	2045	5746	333		
70	187	526	30	330	927	52	519	1458	82	852	2393	135	1330	3736	211	2176	6113	345		
75	198	558	31	350	983	54	550	1546	85	903	2537	140	1410	3960	218	2306	6479	357		
80	210	589	32	370	1038	56	581	1633	88	954	2680	145	1489	4184	226	2437	6846	369		
85	221	621	33	389	1094	58	612	1721	91	1005	2824	149	1569	4408	233	2567	7213	381		
90	232	652	34	409	1150	59	644	1808	93	1056	2968	153	1649	4632	239	2698	7579	392		
95	243	684	35	429	1205	61	675	1896	96	1107	3111	158	1729	4857	246	2828	7946	402		
100	255	715	36	449	1261	63	706	1983	98	1158	3255	162	1808	5081	252	2959	8313	413		
125	311	873	40	548	1539	70	862	2421	110	1414	3972	181	2207	6201	282	3611	10146	462		
150	367	1031	44	647	1817	77	1017	2858	121	1669	4690	198	2606	7322	309	4264	11979	506		
175	423	1189	47	746	2095	83	1179	3295	130	1925	5408	214	3005	8442	334	4916	13812	546		
200	479	1346	50	845	2373	89	1329	3733	139	2180	6126	229	3404	9562	357	5569	15645	584		
225	535	1504	53	944	2651	94	1484	4170	148	2436	6843	242	3802	10683	378	6221	17478	619		
250	592	1662	56	1043	2929	99	1640	4607	156	2691	7561	256	4201	11803	399	6874	19312	653		
275	648	1820	59	1142	3207	104	1796	5045	163	2947	8279	268	4600	12924	418	7526	21145	685		
300	704	1977	62	1240	3485	108	1951	5482	171	3202	8997	280	4999	14044	437	8179	22978	715		
325	760	2135	64	1339	3763	113	2107	5919	178	3458	9714	291	5398	15165	455	8831	24811	744		
350	816	2293	66	1438	4041	117	2263	6357	184	3713	10432	302	5796	16285	472	9484	26644	772		
375	872	2451	69	1537	4319	121	2418	6794	191	3969	11150	313	6195	17405	489	10136	28477	799		
400	928	2608	71	1636	4597	125	2574	7231	197	4224	11867	323	6594	18526	505	10789	30311	826		
425	985	2766	73	1735	4875	129	2730	7669	203	4480	12585	333	6993	19646	520	11441	32144	851		
450	1041	2924	75	1834	5153	133	2885	8106	209	4735	13303	343	7392	20767	535	12094	33977	876		
475	1097	3082	77	1933	5431	136	3041	8543	215	4991	14021	352	7791	21887	550	12746	35810	900		
500	1153	3239	79	2032	5709	140	3197	8981	220	5246	14738	361	8189	23008	564	13399	37643	923		
525	1209	3397	81	2131	5987	143	3352	9418	226	5501	15456	370								
550	1265	3555	83	2230	6266	147	3508	9855	231	5757	16174	379								
575	1321	3713	85	2329	6544	150	3664	10293	236	6012	16892	388								
600	1378	3870	87	2428	6822	153	3819	10730	241	6268	17609	396								
625	1434	4028	89	2527	7100	157														
650	1490	4186	91	2626	7378	160														
675	1546	4344	92	2725	7656	163														
700	1602	4501	94	2824	7934	166														
725	1658	4659	96	2923	8212	169														
750	1715	4817	97	3022	8490	171														
775	1771	4975	99	3121	8768	174														
800	1827	5132	100	3220	9046	177														
825	1883	5290	102	3319	9324	180														
850	1939	5448	104	3418	9602	183														
875	1995	5606	105	3517	9880	185														
900	2051	5763	107	3616	10158	188														

\* Pressure Settings Below 15 PSIG are Non-ASME Code

Universal  
Components  
Inc.



Check  
Valves

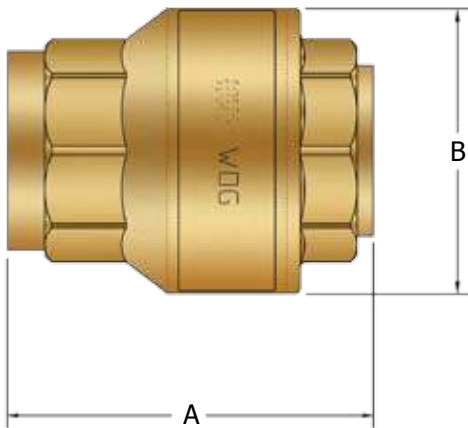


## BC SERIES CHECK VALVE



### Features:

- Soft Seat Bubble Tight 1/2 psi Cracking Pressure
- NBR Standard (Viton® Optional, use Suffix V)
- Lead Free option, use suffix LF Complies with California AB1953
- Max Working Pressure 1/4" thru 2" 400 psi WOG
- Max Working Pressure 2-1/2" thru 4" 175 psi WOG
- ANSI/NSF 61 Certified (NBR only)
- NBR Temperature Range +10°F to 210°F
- Viton Max Temperature 366°F/125 psi Steam

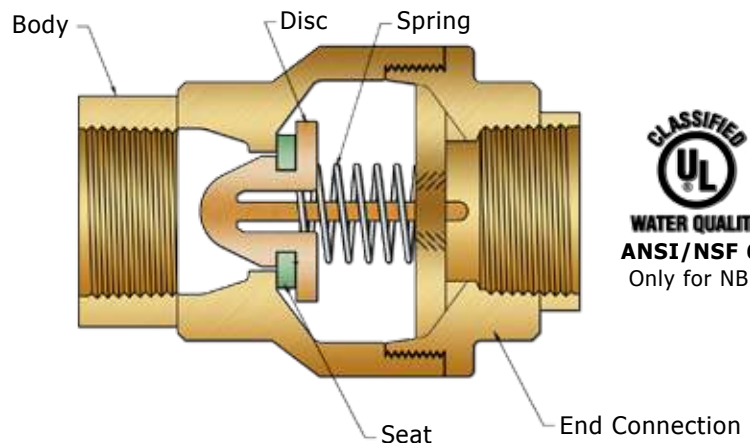


### Dimensions

PART #	NPT SIZE	A	B	Cv	Max psi
BC-2	1/4"	1.73	1.06	4.55	400 psi
BC-3	3/8"	1.73	1.06	4.55	
BC-4	1/2"	2.32	1.35	6.00	
BC-6	3/4"	2.56	1.65	11.00	
BC-8	1"	2.76	1.93	16.90	
BC-10	1-1/4"	2.93	2.40	27.40	
BC-12	1-1/2"	3.17	2.87	39.10	175 psi
BC-16	2"	3.37	3.46	60.70	
BC-20	2-1/2"	4.37	4.39	98.40	
BC-24	3"	4.86	5.24	158.0	
BC-32	4"	5.41	6.42	225.4	

### Bill of Materials

Material	Description
Body	Brass CW 617
End Connection	UNI EN 12165
Disc	Polyetherimide
Spring	Stainless Steel
Seat	NBR (Viton® Optional)

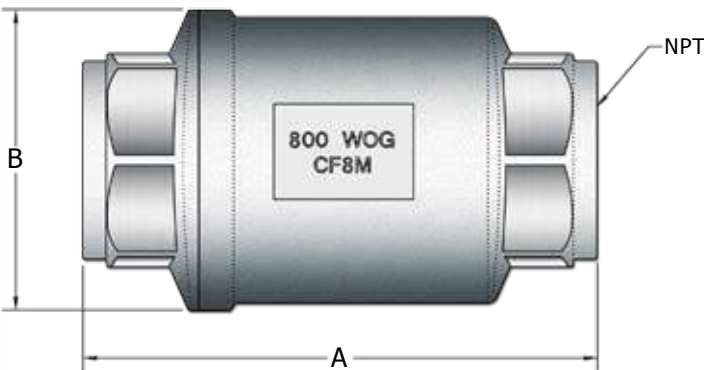


# SCI SERIES CHECK VALVE



## Features:

- 316 Stainless Steel CF8M
- Soft Seat Bubble Tight 1/2 psi Cracking Pressure
- Max Working Pressure 800 psi WOG
- 125 WSP Saturated Steam
- P.T.F.E., Seat Temperature Range +10°F to 450°F

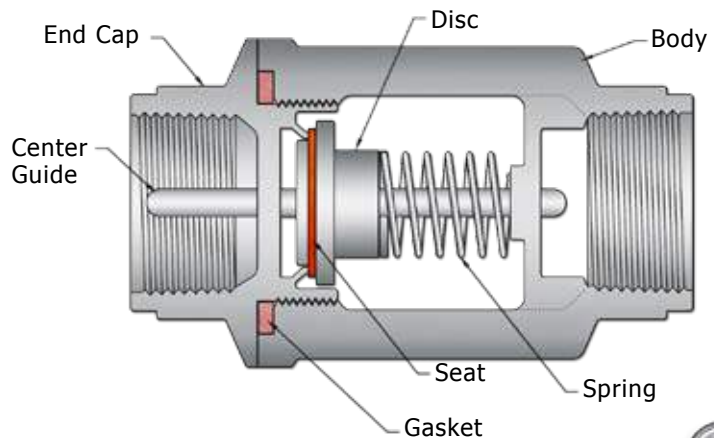


## Dimensions

PART #	NPT SIZE	A	B	Cv
SCI-2	1/4"	2.31	1.35	3.5
SCI-3	3/8"	2.31	1.35	3.5
SCI-4	1/2"	2.31	1.35	5.2
SCI-6	3/4"	2.87	1.81	10.0
SCI-8	1"	3.50	2.13	15.0
SCI-10	1-1/4"	4.18	2.46	24.5
SCI-12	1-1/2"	4.93	2.88	35.2
SCI-16	2"	6.00	3.56	52.0

## Bill of Materials

Material	Description
Body	ASTM A351-CF8M
Center Guide	
Disc	
End Cap	316 Stainless Steel
Spring	
Seat	PTFE
Gasket	





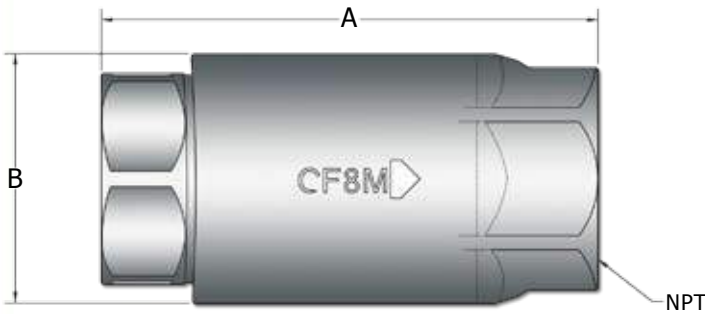
## SC SERIES CHECK VALVE



### Features:

- 316 Stainless Steel CF8M
- 400 psi WOG, 125 psi WSP
- RTFE Ball Cone Check Valve
- 1/2 psi Cracking Pressure
- Temperature Range -20°F to 350°F

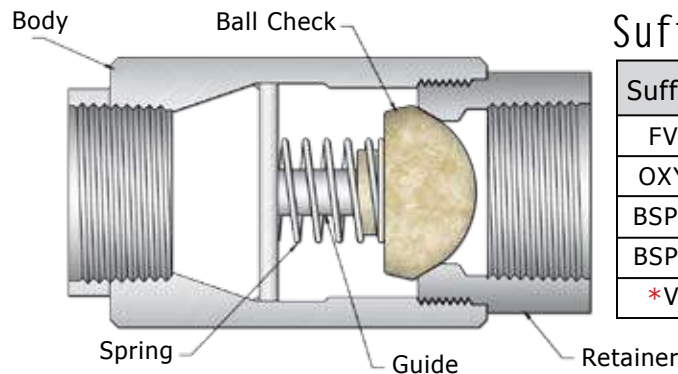
### Dimensions



PART #	NPT SIZE	A	B	GPM
SC-2	1/4"	2.06	1.12	0.85
SC-3	3/8"	2.12	1.12	1.21
SC-4	1/2"	2.31	1.12	1.40
SC-6	3/4"	2.87	1.50	3.53
SC-8	1"	3.15	1.93	6.00
SC-10	1-1/4"	4.18	2.37	44.0
SC-12	1-1/2"	4.93	2.81	65.0
SC-16	2"	6.00	3.68	81.0

### Bill of Materials

Material	Description
Body	Stainless Steel ASTM A351 CF8M
Retainer (1-1/4" to 2")	
Guide	Stainless Steel ASTM A276 316
Spring	
Retainer (1/4" to 1")	
Ball Check	RPTFE (Reinforced Teflon®)



### Suffix for Options

Suffix	Option
FV	Foot Valve Screen
OXY	Oxygen Clean
BSPT	BSPT Threads
BSPP	BSPP Threads
*V	Viton® Seat

\* Note:  
For Suffix "V"  
Consult Factory

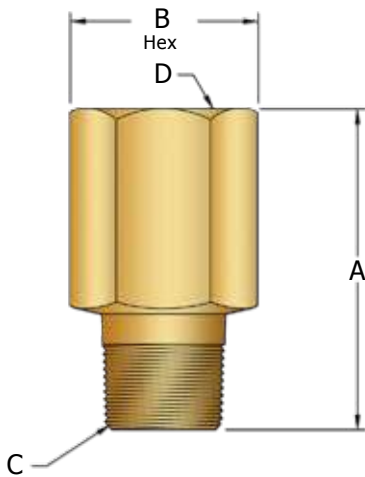


# BCMF SERIES CHECK VALVE



## Features:

- ASTM B16 Brass Construction
- Precision Custom Cracking Pressure Settings (0.5 - 150 psi)
- Viton Seal Standard, Other Elastomers Available, Consult Factory
- 200 psi Max Working Pressure
- Cracks +/- 5% of Set Pressure
- Working Temperature 0°F to 350°F



## Dimensions

PART #	A	B	C & D	Cv
BCMF2-*	1.63	0.75	1/4"	0.25
BCMF3-*	2.12	0.87	3/8"	1.09
BCMF4-*	2.38	1.12	1/2"	1.31
BCMF6-*	2.40	1.25	3/4"	1.37
BCMF8-*	3.61	1.50	1"	2.75

\* = Set Pressure

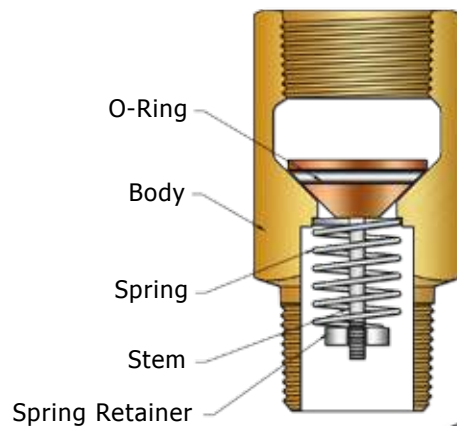
(example: for a 15.5 psi cracking pressure, part# BCMF2-15.5)

## Bill of Materials

Material	Description
Body	ASTM B16
Spring	302 Stainless Steel 316 Optional
Stem	ASTM B16
O-Ring	Viton®
Spring Retainer	ASTM B16

### Special Options:

SAE  
BSPT  
BSPP  
Oxygen Clean  
(consult factory)

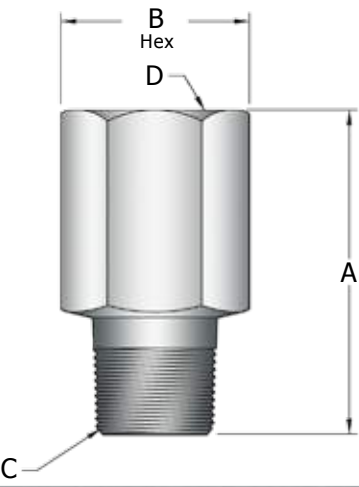




# SCMF SERIES CHECK VALVE

## Features:

- 316 Stainless Steel Construction
- Precision Custom Cracking Pressure
- Settings (0.5 - 150 psi)
- Viton Seal Standard, Other Elastomers Available, Consult Factory
- 200 psi Max Working Pressure
- Cracks +/- 5% of Set Pressure
- Working Temperature 0°F to 350°F



## Dimensions

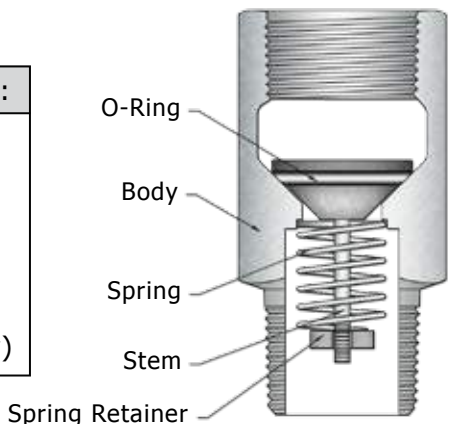
PART #	A	B	C & D	Cv
SCMF2-*	1.63	0.75	1/4"	0.25
SCMF3-*	2.12	0.87	3/8"	1.09
SCMF4-*	2.38	1.12	1/2"	1.31
SCMF6-*	2.40	1.25	3/4"	1.37
SCMF8-*	3.61	1.50	1"	2.75

\* = Set Pressure  
 (example: for a 15.5 psi cracking pressure, part# SCMF2-15.5)

## Bill of Materials

Material	Description
Body	316 Stainless Steel
Spring	302 Stainless (316 Optional)
Stem	316 Stainless Steel
O-Ring	Viton®
Spring Retainer	316 Stainless Steel

Special Options:
SAE
BSPT
BSPP
Oxygen Clean
Hastelloy
(consult factory)



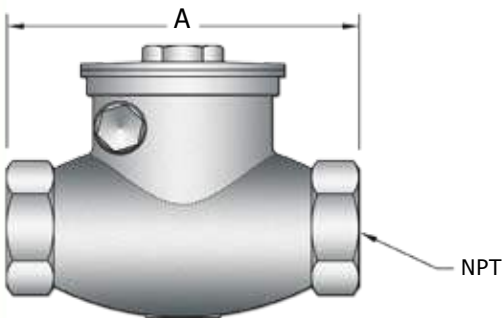
# SSWC SERIES CHECK VALVE



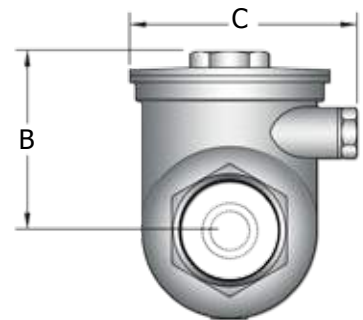
## Features:

- ASTM A351 CF8M Stainless Steel
- Metal Seat Design
- Investment Casting
- 200 psi Max Working Pressure
- Working Temperature -4°F to 392°F
- Sizes Available From 1/2" to 3"

## Dimensions

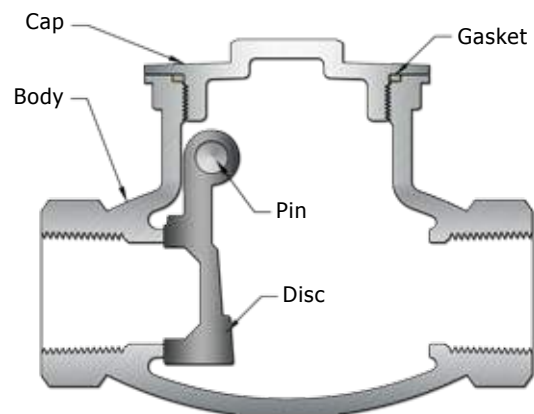


PART #	NPT SIZE	A	B	C
SSWC-4	1/2"	2.56	1.73	1.83
SSWC-6	3/4"	3.15	2.05	2.05
SSWC-8	1"	3.50	2.44	2.20
SSWC-10	1-1/4"	4.13	2.64	2.56
SSWC-12	1-1/2"	4.72	3.11	2.95
SSWC-16	2"	5.47	3.15	3.31
SSWC-20	1-1/2"	7.13	3.78	4.25
SSWC-24	3"	7.87	4.09	5.39



## Bill of Materials

Material	Description
Body	ASTM A351-CF8M (Stainless Steel)
Seat	
Cap	
Disc	
Gasket	PTFE
Pin	AISI 304 Stainless



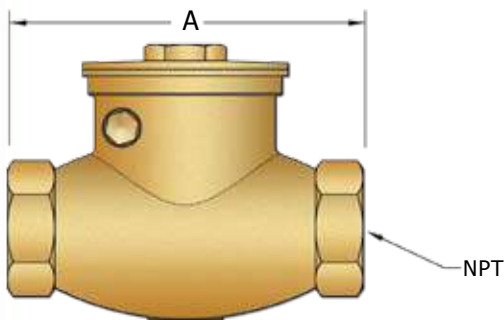


## SWC SERIES CHECK VALVE



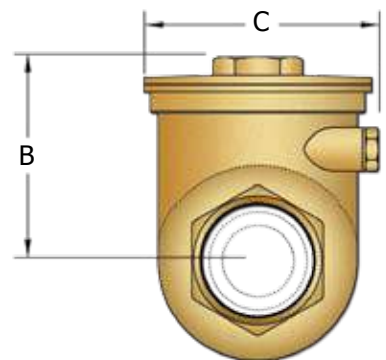
### Features:

- All Brass Construction
- Metal Seat Design
- 200 psi Max Working Pressure
- Working Temperature -20°F to 248°F
- Sizes Available From 1/2" to 3"



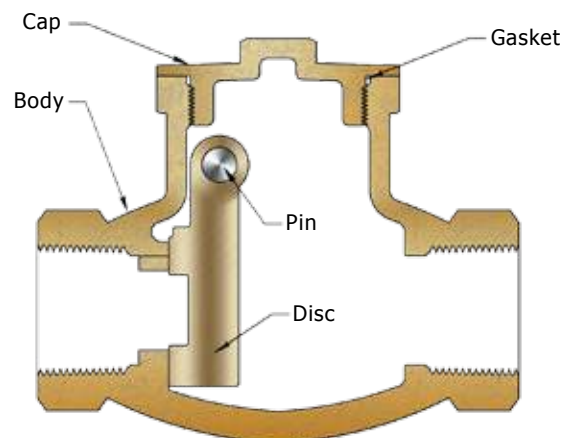
### Dimensions

PART #	NPT SIZE	A	B	C
SWC-4	1/2"	2.56	1.73	1.83
SWC-6	3/4"	3.15	2.05	2.05
SWC-8	1"	3.50	2.44	2.20
SWC-10	1-1/4"	4.13	2.64	2.56
SWC-12	1-1/2"	4.72	3.11	2.95
SWC-16	2"	5.47	3.15	3.31
SWC-20	1-1/2"	7.13	3.78	4.25
SWC-24	3"	7.87	4.09	5.39



### Bill of Materials

Material	Description
Body	Cast Bronze
Cap	
Disc	
Pin	Stainless Steel
Gasket	PTFE

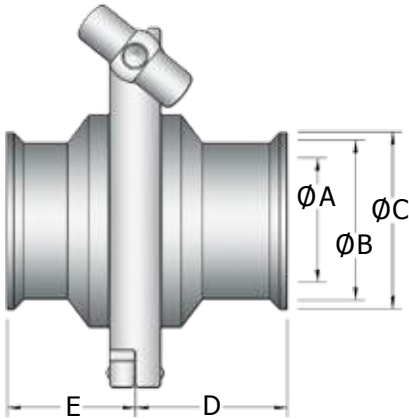


# SCTC SERIES CHECK VALVE



## Features:

- ASTM 316L Stainless Steel Construction
- Max Working Pressure 150 psi
- Max Working Temperature 250°F
- Sanitary Tri-Clamp Design (Weld in Connection Also Available. Consult Factory)
- Viton® Seal Standard (EPDM available)
- Suitable for Food, Pharmaceutical, Dairy and Other Sanitary Applications
- Sizes Available From 1/2" to 6"

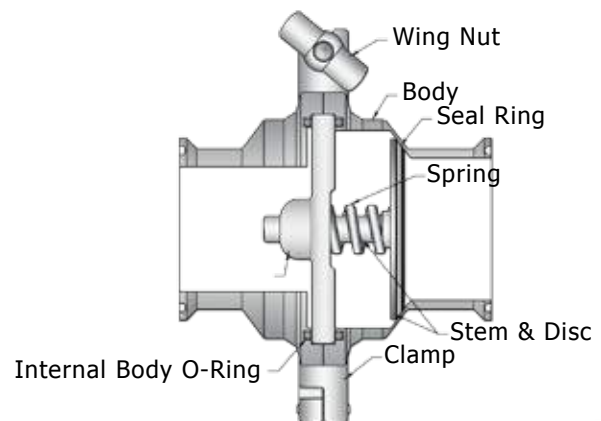


## Dimensions

PART #	Ø A	Ø B	Ø C	D	E
SCTC-4	0.37	0.68	1.00	1.10	1.53
SCTC-6	0.62	0.68	1.00	1.10	1.53
SCTC-8	0.87	1.71	1.98	1.65	2.32
SCTC-12	1.37	1.71	1.98	1.65	2.32
SCTC-16	1.87	2.25	2.51	1.65	2.32
SCTC-20	2.37	2.77	3.05	1.65	2.32
SCTC-24	2.87	3.28	3.58	1.65	2.32
SCTC-32	3.81	4.42	4.68	2.32	2.59

## Bill of Materials

Material	Description
Body Stem & Disc Wing Nut Clamp Stem Guide	ASTM 316L Stainless Steel
Spring	316 Stainless Steel
Internal Body O-Ring	BUNA
Seal Ring	Viton®





# CHC SERIES CHECK VALVE

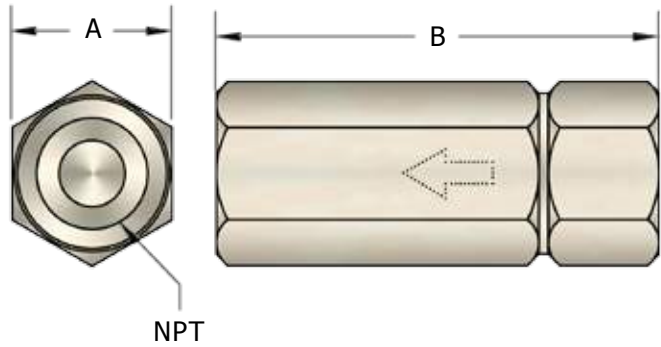
## Features:

- Zinc Clear Plated Steel Check Valve
- RoHs Compliant
- Sizes From 1/4" to 2" with 5 or 65 psi Cracking Pressure
- Available in NPT or SAE Connections
- Metal to Metal Seat, Case Hardened Poppet and Guide
- Temperature -40°F to 500°F

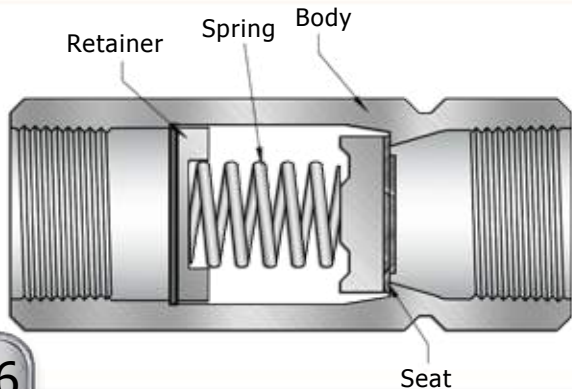


## Dimensions

PART #	NPT/SAE	A	B	Psi	Cv
CHC-2-**	1/4"NPT	2.44	0.87	6000	6
CHC-S4-**	7/16-20 ORB				
CHC-3-**	3/8"NPT	2.87	0.95	6000	9.5
CHC-S6-**	9/16-18 ORB				
CHC-4-**	1/2"NPT	3.50	1.14	5000	18
CHC-S8-**	3/4-16 ORB				
CHC-6-**	3/4"NPT	4.25	1.50	5000	30
CHC-S12-**	1 1/16-12 ORB				
CHC-8-**	1"NPT	5.12	1.69	5000	35
CHC-S16-**	1 5/16-12 ORB				
CHC-10-**	1-1/4"NPT	5.56	2.40	3000	60
CHC-S20-**	1 5/8-12 ORB				
CHC-12-**	1-1/2"	5.56	2.56	3000	90
CHC-S24-**	1 7/8-12 ORB				
CHC-16-**	2"	7.91	3.15	3000	145



Note:  
 \*\* = Cracking Pressure  
 (5 = 5 Psi, 65 = 65 Psi)



## Bill of Materials

Description	Material
Entire Construction	Zinc Plated Steel RoHs Compliant

# CHSC SERIES CHECK VALVE

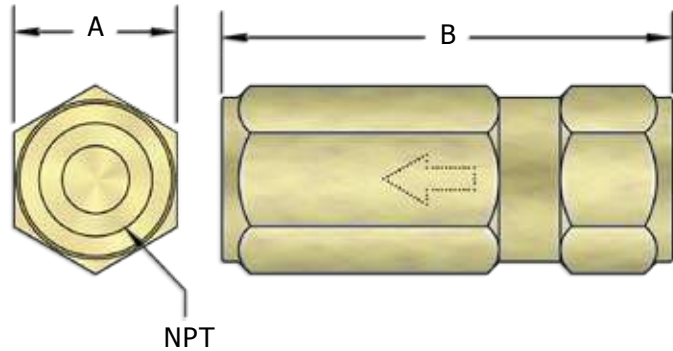


## Features:

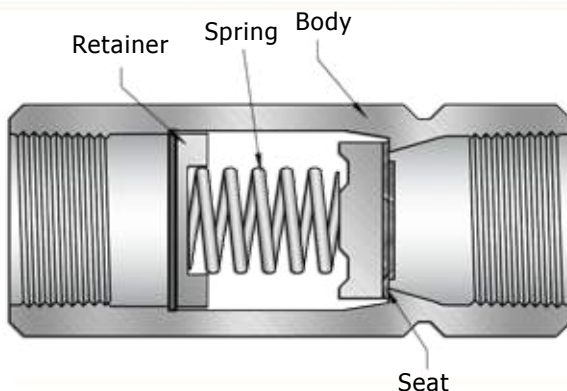
- Zinc Plated Steel Check Valve
- Sizes From 1/4" to 2" with 7 or 70 psi Cracking Pressure
- Available in NPT or SAE Connections
- Buna-N Captive Poppet O-Rings
- Temperature -13°F to 185°F

## Dimensions

PART #	NPT/SAE	A	B	Psi	Cv
CHSC-2-**	1/4"NPT	1.97	0.75	10000	6
CHSC-S4-**	7/16-20 ORB				
CHSC-3-**	3/8"NPT	2.36	0.91	10000	9.5
CHSC-S6-**	9/16-18 ORB				
CHSC-4-**	1/2"NPT	2.76	1.06	7250	18
CHSC-S8-**	3/4-16 ORB				
CHSC-6-**	3/4"NPT	3.39	1.38	7250	30
CHSC-S12-**	1 1/16-12 ORB				
CHSC-8-**	1"NPT	3.94	1.62	7250	35
CHSC-S16-**	1 5/16-12 ORB				
CHSC-10-**	1-1/4"NPT	5.12	2.17	4350	60
CHSC-S20-**	1 5/8-12 ORB				
CHSC-12-**	1-1/2"	5.31	2.56	4350	90
CHSC-S24-**	1 7/8-12 ORB				
CHSC-16-**	2"	5.91	2.95	4350	145



Note:  
 \*\* = Cracking Pressure  
 (7 = 7 Psi, 70 = 70 Psi)



## Bill of Materials

Description	Material
Body	Zinc Plated Steel
Retainer	
Spring	Steel
Seat	Buna-N



# SHSC SERIES CHECK VALVE

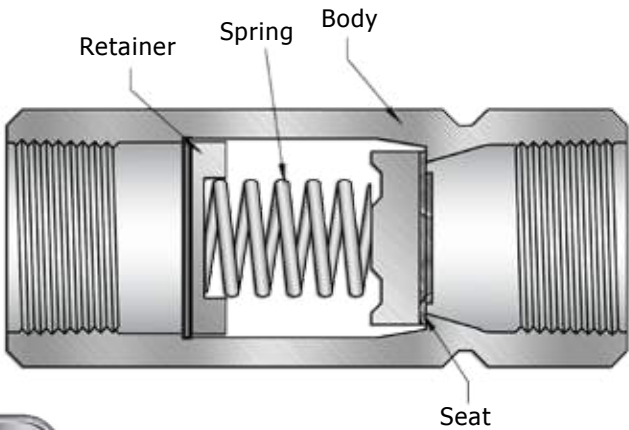
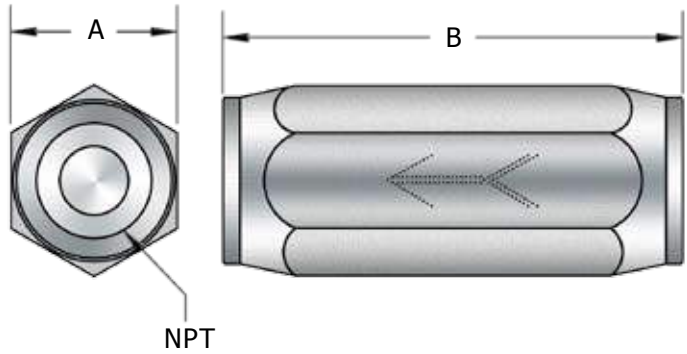
## Features:

- 316 Stainless Steel Check Valve
- 7 psi Cracking Pressure
- Available in NPT or SAE Connections
- Viton® Poppet O-Rings
- Temperature -13°F to 392°F



## Dimensions

PART #	NPT	A	B	Psi	Cv
SHSC-2-7	1/4"	1.97	0.75	5145	6
SHSC-3-7	3/8"	2.36	0.94	5145	9.5
SHSC-4-7	1/2"	2.56	1.06	5145	18
SHSC-6-7	3/4"	2.95	1.34	4410	30
SHSC-8-7	1"	3.66	1.61	3675	35
SHSC-10-7	1-1/4"	4.33	1.97	3675	60
SHSC-12-7	1-1/2"	4.41	2.17	3675	90
SHSC-16-7	2"	4.72	2.95	2200	145



## Bill of Materials

Description	Material
Body Retainer	316 Stainless Steel
Spring	302 Stainless Steel
Seat	Viton®

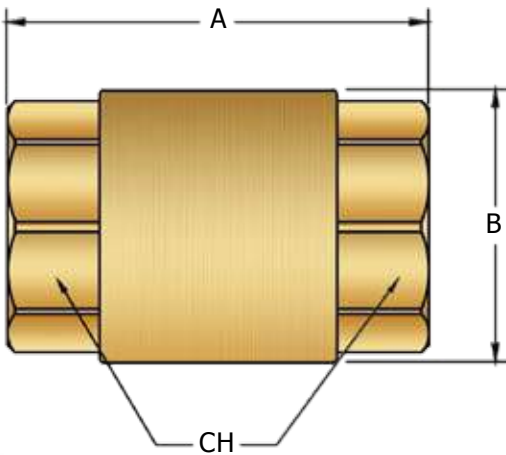


# BCS SERIES CHECK VALVE



## Features:

- Soft Seat Bubble Tight 1/2 psi Cracking Pressure
- NBR Seat Stainless Steel Spring
- Max Working Pressure 400 psi WOG
- Working Temperature 10°F to 210°F
- Foot Valve Screen Available



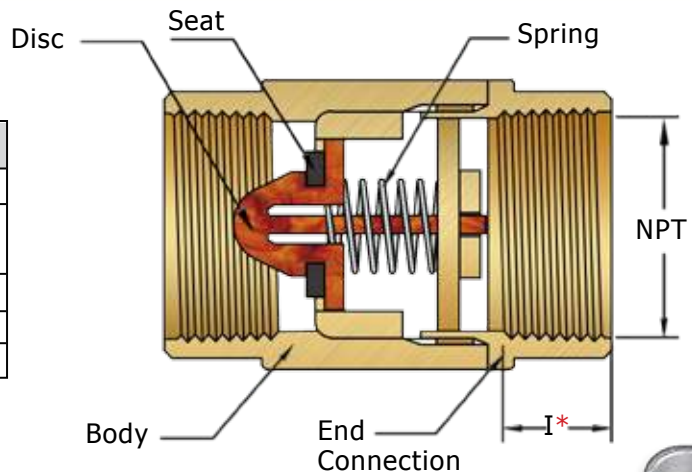
## Dimensions

PART #	NPT	A	B	CH	I*	Psi	Cv	Lbs
BCS-4	1/2"	1.74	1.10	0.98	0.47	400	4.50	0.20
BCS-6	3/4"	1.87	1.36	1.22	0.47	400	6.10	0.35
BCS-8	1"	2.20	1.65	1.50	0.57	400	11.00	0.55
BCS-10	1-1/4"	2.44	2.05	1.89	0.63	400	16.90	0.88
BCS-12	1-1/2"	2.75	2.40	2.12	0.71	400	27.40	1.28
BCS-16	2"	3.07	2.87	2.64	0.75	400	39.10	1.94

\* = for "I" see drawing below

## Bill of Materials

Description	Material
Body	Brass CW 617N UNI EN 12165
End Connection	Brass CW 617N UNI EN 12165
Disc	Polyetherimide
Seat	NBR
Spring	Stainless Steel

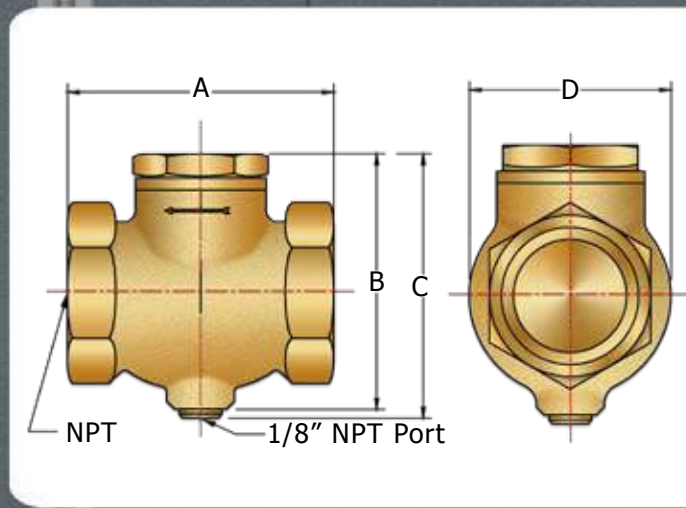




# BPC SERIES CHECK VALVE



- Features:
- Bronze Piston Check Valve
  - 3 psi Cracking Pressure
  - 15% Glass Filled Teflon Poppet
  - 250 psi Max Working Pressure
  - 450°F Max Temperature

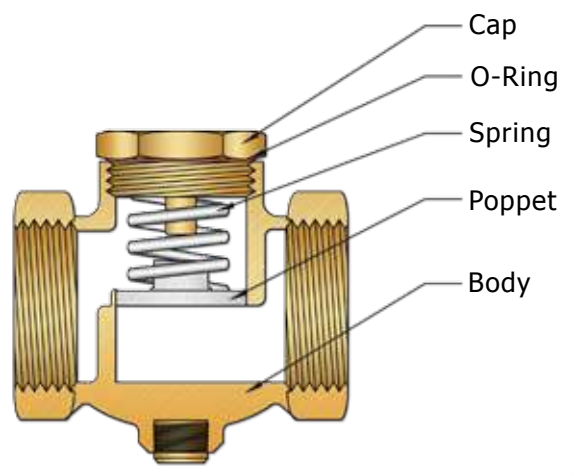


Dimensions

PART #	NPT	A	B	C	D	SCFM@ 100psig	Cv
BPC-1	1/8"	1.76	0.94	1.78	1.04	12	1.41
BPC-2	1/4"	1.78	1.69	1.78	1.04	12	1.41
BPC-3	3/8"	1.85	1.72	1.81	1.13	22	2.59
BPC-4	1/2"	2.28	2.15	2.24	1.44	38	4.15
BPC-6	3/4"	2.54	2.30	2.39	1.62	60	7.33
BPC-8	1"	3.00	2.58	2.68	1.97	115	13.31
BPC-10	1-1/4"	3.60	3.24	3.33	2.38	160	23.06
BPC-12	1-1/2"	3.97	3.34	3.43	2.75	160	23.0
BPC-16	2"	4.91	3.91	4.00	3.32	220	57.0

Bill of Materials

Description	Material
Body	Bronze
Spring	Stainless Steel
Poppet	15%-Glass Filled Teflon®
Cap	C360 Machined Brass
O-Ring	Viton®

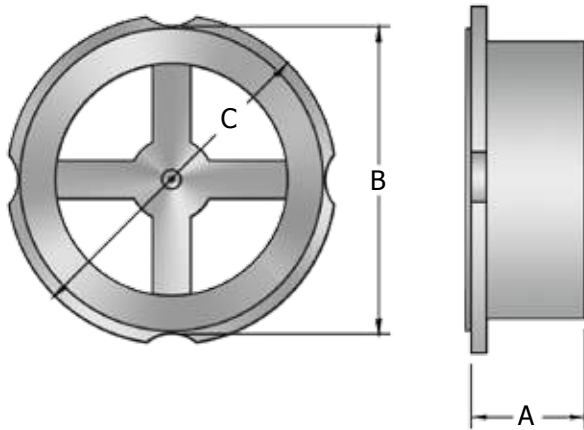


# SCFW SERIES CHECK VALVE



## Features:

- All 316 Stainless Steel Construction, Other Alloys Available. Consult Factory
- Wafer Style Check fits ANSI class 125FF, 250RF, 150RF and 300RF
- Metal to Metal Seats are Precision Lapped, Resilient Seats Available. Consult Factory
- 1/4 psi Cracking Pressure, Designed to Work in any Position
- Disc Guided by 4 Ribs for Smooth Operation Without Binding
- Standard Working Temperature -40° to 450°F, Wider Temp. Range Available. Consult Factory

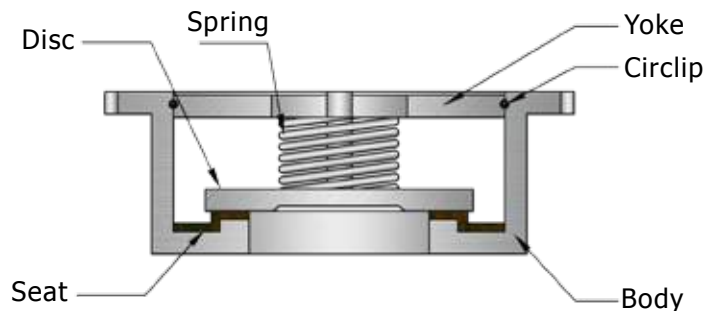


## Dimensions

PART #	NPT	A	B	C	Lbs	Cv
SCFW-4	1/2"	0.67	1.69	1.97	0.39	8
SCFW-6	3/4"	0.79	2.09	2.36	0.44	10
SCFW-8	1"	0.91	2.48	2.76	0.55	25
SCFW-10	1-1/4"	1.10	2.99	3.19	1.10	33
SCFW-12	1-1/2"	1.10	3.35	3.58	1.54	40
SCFW-16	2"	1.55	3.74	4.17	2.86	60
SCFW-20	2-1/2"	1.81	4.53	4.96	3.75	70
SCFW-24	3"	1.97	5.20	5.55	6.17	150

## Bill of Materials

Description	Material
Body	Stainless Steel A351 GR.CF8M type 316
Yoke	Stainless Steel A351 GR.CF8M type 316
Spring	Series 300 Stainless Steel
Disc	Stainless Steel A351 GR.CF8M
Seat	Stainless Steel A351 GR.CF8M
CirClip	Series 300 Stainless Steel

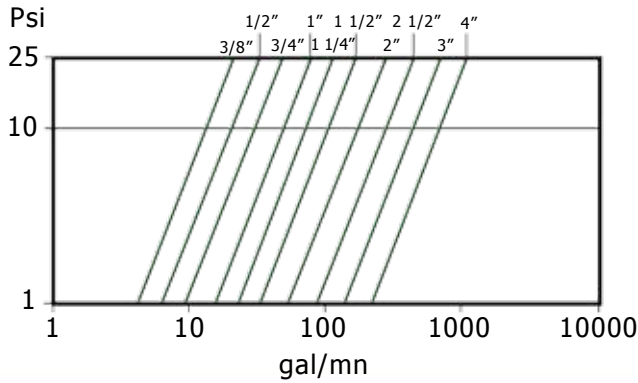


# Universal Components, Inc.

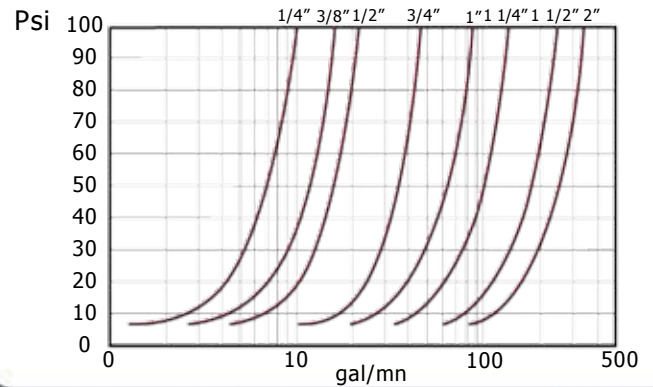
1313 Hall Spencer Road  
 Rock Hill, SC 29730  
 Phone: 803-324-5176  
 Fax: 803-324-2640  
 www.ucimfg.com



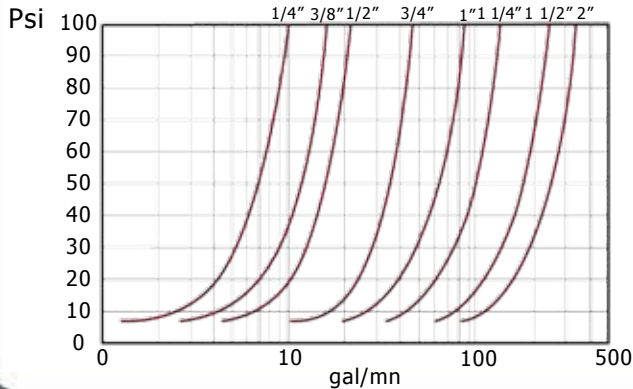
### BCS-BC Series Flow Chart



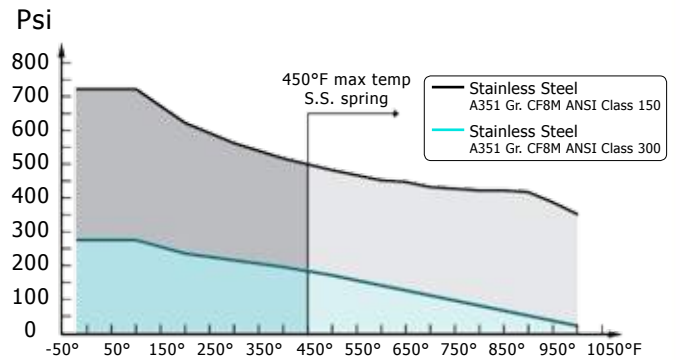
### CHC Series Flow Chart



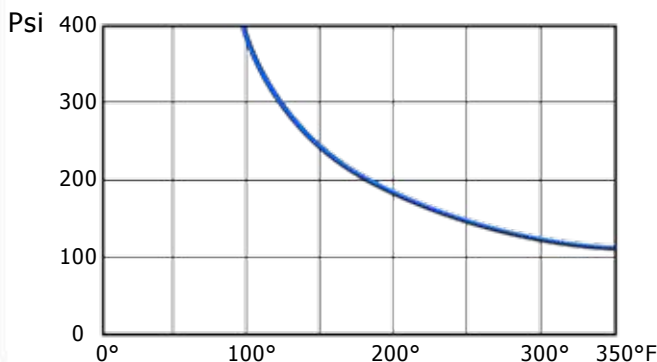
### CHSC Series Flow Chart



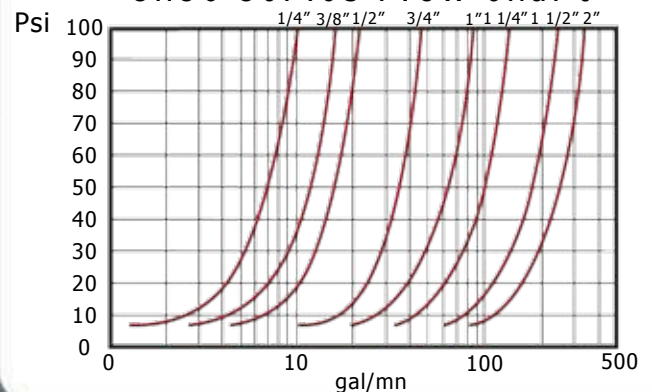
### SCFW Series Temp vs Pressure Chart



### SC Series Temp vs Pressure Chart



### SHSC Series Flow Chart



Universal  
Components  
Inc.



Y-Strainers

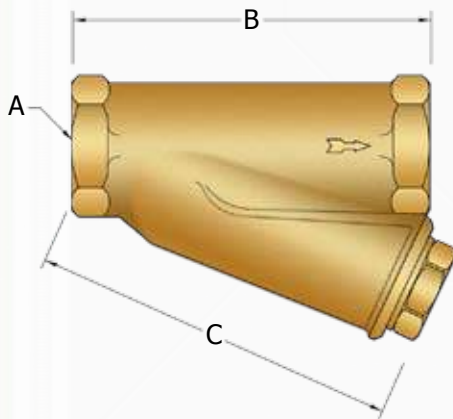


## YSB SERIES Y - STRAINER



### Features:

- Bronze Y Strainer 1/4" to 4"
- 100% American Made
- Self-Aligning Screen Design
- Available NPT or Solder Connection
- Working Pressure (cold non-shock)
- 125 psi @ 350°F Steam
- 400 psi @ 150°F WOG
- CRN 0E8959.5C



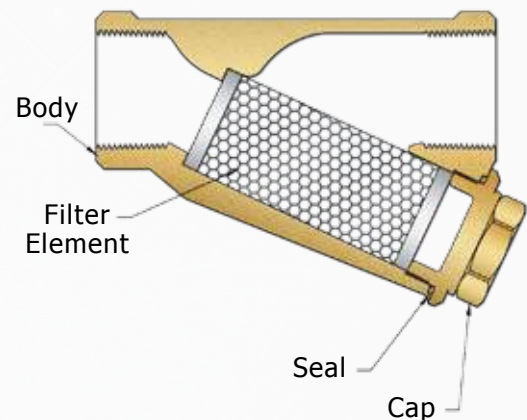
Options (Suffix)	
LF	Lead Free
CT	Tapped Cap
CTP	Tapped Cap w/Plug
20	20 Mesh (std 3/4"-2")
40	40 Mesh
50	50 Mesh (std 1/8"-1/2")
60	60 Mesh
80	80 Mesh
100	100 Mesh

### Dimensions

PART #	A	B	C
YSB-2	1/4"	2.00	1.25
YSB-3	3/8"	2.69	2.00
YSB-4	1/2"	2.69	2.00
YSB-6	3/4"	3.87	3.25
YSB-8	1"	4.75	4.00
YSB-10	1-1/4"	5.12	4.25
YSB-12	1-1/2"	5.75	5.00
YSB-16	2"	6.75	6.00
YSB-20	2-1/2"	7.94	5.87
YSB-24	3"	9.12	6.87
YSB-32	4"	11.94	10.12

### Bill of Materials

PART #	Body	Filter Element	Seal	Cap
YSB-2 YSB-3 YSB-4	Cast Bronze ASTM B584	302 Stainless Steel (50 mesh Std)	Teflon (O-Ring)	Brass ASTM B16
YSB-6 YSB-8	Cast Bronze ASTM B584	302 Stainless Steel (20 mesh Std)	PTFE (Gasket)	Brass ASTM B16
YSB-10 YSB-12 YSB-16 YSB-20 YSB-24 YSB-32	Cast Bronze ASTM B584	302 Stainless Steel (20 mesh Std)	PTFE (Gasket)	Cast Bronze ASTM B584

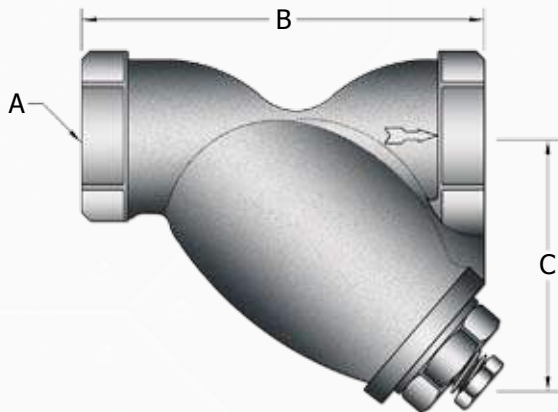


# YSCS SERIES Y - STRAINER



## Features:

- Carbon Steel Y Strainer 1/4" to 3"
- ANSI Class 600Lb
- Epoxy Painted Investment Casting Body & Cap
- NPT Threaded Standard
- Available in Socket Weld Consult Factory
- 1480 psi @ 100°F WOG
- 825 psi @ 800°F WOG
- 600 psi @ 489°F Saturated Steam Non-Shock

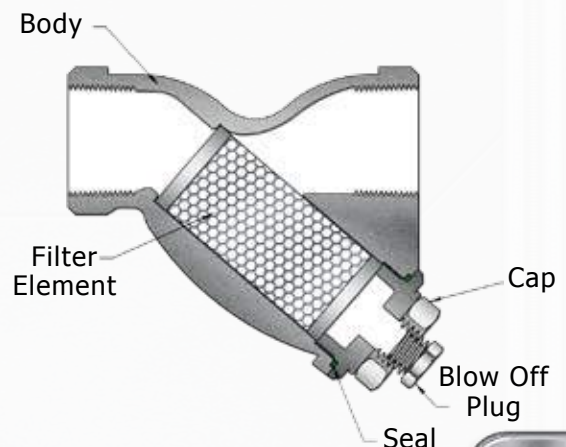


## Dimensions

PART #	A	B	C	Cv
YSCS-2	1/4"	2.93	2.37	7
YSCS-3	3/8"	2.93	2.37	7
YSCS-4	1/2"	2.93	2.37	9.4
YSCS-6	3/4"	3.68	2.81	18
YSCS-8	1"	4.56	3.68	30
YSCS-10	1-1/4"	4.93	4.12	45
YSCS-12	1-1/2"	5.56	4.75	63
YSCS-16	2"	6.93	6.00	98
YSCS-20	2-1/2"	12.0	10.50	130
YSCS-24	3"	12.0	10.50	180

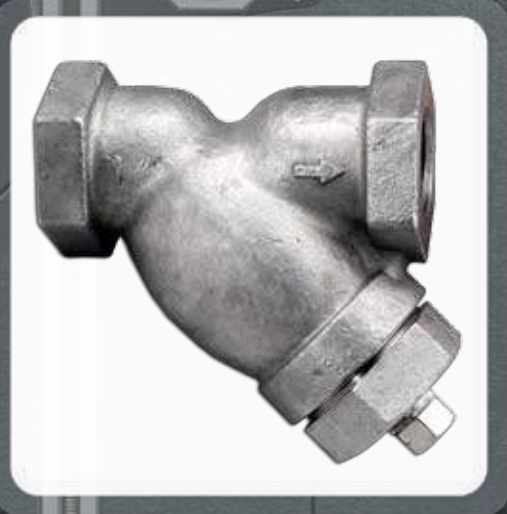
## Bill of Materials

PART #	Body & Cap	Filter Element	Seal	Blow Off Plug
YSCS-2	ASTM B216 WEB	304 Stainless Steel Std Screens: Water Screens- 0.062 Steam Screens- 0.033 (other options available, consult factory)	Spiral Wound Stainless Steel Non- Asbestos	Cast Steel
YSCS-3				
YSCS-4				
YSCS-6				
YSCS-8				
YSCS-10				
YSCS-12				
YSCS-16				
YSCS-20				
YSCS-24				



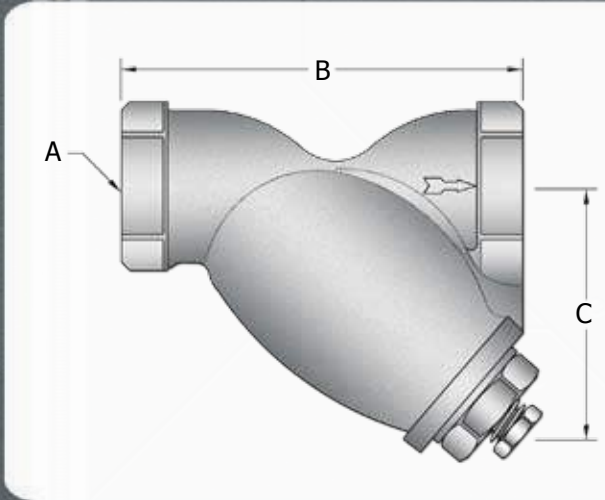


# YSSS SERIES Y - STRAINER



## Features:

- Stainless Steel Y Strainer 1/4" to 3"
- ANSI Class 600Lb
- Investment Casting Body & Cap
- NPT Threaded Standard
- Available in Socket Weld Consult Factory
- 1440 psi @ 100°F WOG
- 700 psi @ 1000°F WOG
- 600 psi @ 489°F Saturated Steam Non-Shock

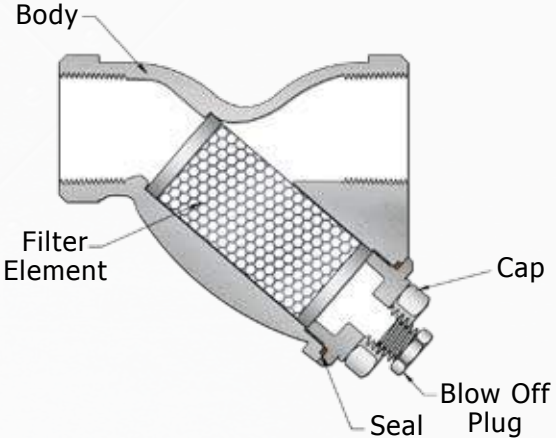


## Dimensions

PART #	A	B	C	Cv
YSSS-2	1/4"	2.93	2.37	7
YSSS-3	3/8"	2.93	2.37	7
YSSS-4	1/2"	2.93	2.37	9.4
YSSS-6	3/4"	3.68	2.81	18
YSSS-8	1"	4.56	3.68	30
YSSS-10	1-1/4"	4.93	4.12	45
YSSS-12	1-1/2"	5.56	4.75	63
YSSS-16	2"	6.93	6.00	98
YSSS-20	2-1/2"	12.0	10.50	130
YSSS-24	3"	12.0	10.50	180

## Bill of Materials

PART #	Body & Cap	Filter Element	Seal	Blow Off Plug
YSSS-2	ASTM A351 CF8M/316	304 Stainless Steel Std Screens: Water Screens- 0.062 Steam Screens- 0.033 (other options available, consult factory)	Spiral Wound Stainless Steel Non- Asbestos	316 Stainless Steel
YSSS-3				
YSSS-4				
YSSS-6				
YSSS-8				
YSSS-10				
YSSS-12				
YSSS-16				
YSSS-20				
YSSS-24				





# YSCI SERIES Y - STRAINER

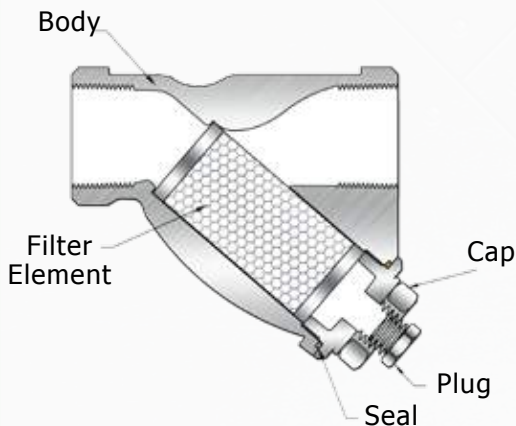
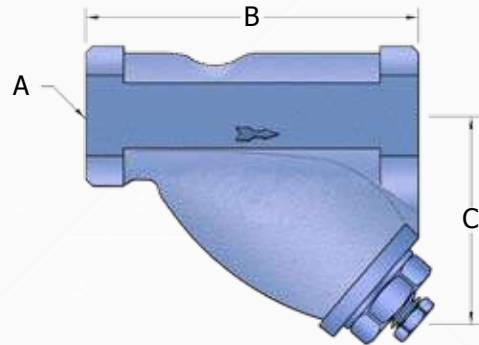


## Features:

- Cast Iron Y Strainer 1/4" to 3"
- ANSI Class 250Lb
- Epoxy Painted Cast Iron Body & Cap
- NPT Threaded Standard
- 400 psi @ 150°F WOG Non-Shock
- 250 psi @ 406°F Saturated Steam Non-Shock
- 250 psi @ 450°F WOG Max Liquid

## Dimensions

PART #	A	B	C	Cv
YSCI-2	1/4"	3.18	2.06	0.7
YSCI-3	3/8"	3.18	2.06	2
YSCI-4	1/2"	3.18	2.06	8
YSCI-6	3/4"	3.75	2.43	15
YSCI-8	1"	4.00	2.62	22
YSCI-10	1-1/4"	5.00	3.37	38
YSCI-12	1-1/2"	5.75	3.87	42
YSCI-16	2"	7.00	4.75	70
YSCI-20	2-1/2"	9.25	5.87	110
YSCI-24	3"	10.00	6.00	160



## Bill of Materials

PART #	Body, Cap & Plug	Filter Element	Seal
YSCI-2	Epoxy Coated Cast Iron ASTM B126 GR B	304 Stainless Steel Std. Screens	Garlock 3200 Non-Asbestos
YSCI-3			
YSCI-4		WOG:	
YSCI-6		1/4" to 2" - 20 Mesh	
YSCI-8		2 1/2" to 3"-1/16"Perf	
YSCI-10		Steam:	
YSCI-12		1/4" to 2" - 30 Mesh	
YSCI-16		2 1/2" to 3"-3/64"Perf	
YSCI-20		(other options available consult factory)	
YSCI-24			



## YS150SS/CS SERIES Y - STRAINER

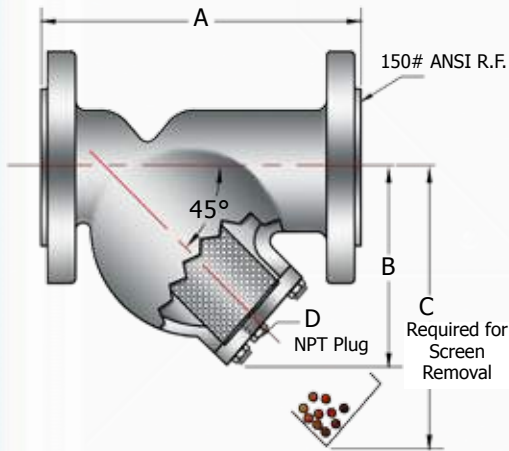
ANSI 150 Class



### Features:

- ANSI Class 150 Flange
- Available in Stainless or Carbon Steel
- Sizes 1/2" Thru 24" (above 12" C/F)
- 275 psi @ 100°F WOG
- 150 psi @ 366°F Saturated Steam

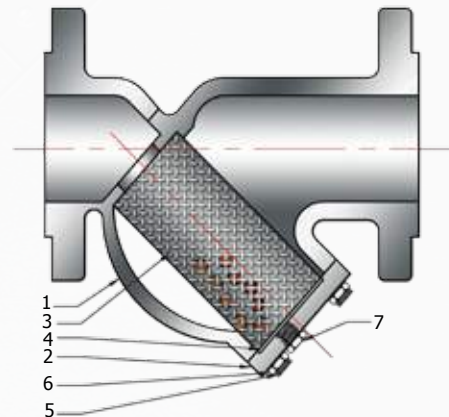
### Dimensions



Size	PART # Stainless Steel	PART # Carbon Steel	A	B	C	D	Lbs	Cv
1/2"	YS150SS-4	YS150CS-4	6.50	3.50	5.00	3/8"	5.5	C/F
3/4"	YS150SS-6	YS150CS-6	7.37	3.75	5.00	1/2"	10.3	C/F
1"	YS150SS-8	YS150CS-8	7.37	3.75	5.00	1/2"	10.3	C/F
1-1/4"	YS150SS-10	YS150CS-10	7.00	4.75	7.00	1/2"	9.8	C/F
1-1/2"	YS150SS-12	YS150CS-12	7.12	4.75	7.00	1/2"	12.5	42
2"	YS150SS-16	YS150CS-16	7.87	5.25	7.00	1/2"	18.0	69
2-1/2"	YS150SS-20	YS150CS-20	9.75	6.50	9.75	1"	28.0	120
3"	YS150SS-24	YS150CS-24	10.06	7.00	10.00	1"	34.0	160
3-1/2"	YS150SS-28	YS150CS-28	12.12	8.25	12.00	1-1/2"	55.0	210
4"	YS150SS-32	YS150CS-32	12.12	8.25	12.00	1-1/2"	55.0	260
5"	YS150SS-40	YS150CS-40	15.62	11.25	20.00	2"	90.0	390
6"	YS150SS-48	YS150CS-48	18.50	13.50	20.00	2"	138.0	550
8"	YS150SS-64	YS150CS-64	21.37	15.50	22.75	2"	220.0	940
10"	YS150SS-80	YS150CS-80	26.00	18.50	28.00	2"	302.0	1700
12"	YS150SS-96	YS150CS-96	29.87	22.25	30.00	2"	550.0	2300

### Bill of Materials

NO.	PART #	YS150CS	YS150SS
1	Body	ASTM A216 GR. WCB	ASTM A351 GR. CF8M
2	Cover	ASTM A216 GR. WCB	ASTM A351 GR. CF8M
3	Screen	Type 304 Stainless Steel	
4	Gasket	Type 304 Stainless Steel Spiral Wound Non-Asbestos	
5	Studs	ASTM A193 GR. B7	ASTM A193 GR. B8 AISI 304
6	Nuts	ASTM A194 GR. 2H	ASTM A194 GR. 8 AISI 304
7	Plug	ASTM A105	ASTM A182 GR. F316



# YS300SS/CS SERIES Y - STRAINER



## Features:

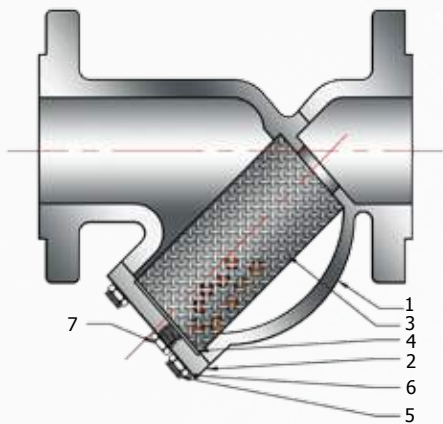
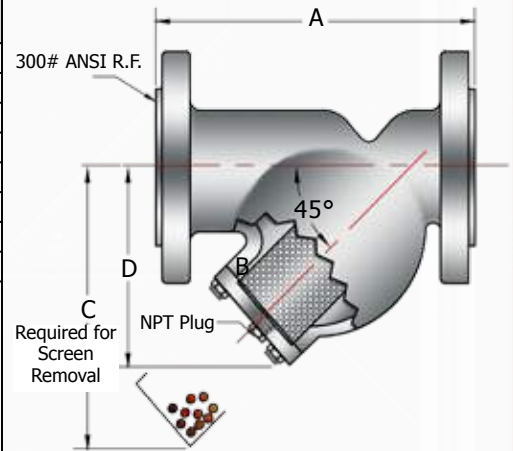
- ANSI Class 300 Flange
- Available in Stainless or Carbon Steel
- Sizes 1/2" Thru 12"
- 720 psi @ 100°F WOG
- 300 psi @ 420°F Saturated Steam

ANSI 300 Class



## Dimensions

Size	PART # Stainless Steel	PART # Carbon Steel	A	B	C	D	Lbs	Cv
1/2"	YS300SS-4	YS300CS-4	6.62	3.50	5.00	3/8"	7.0	C/F
3/4"	YS300SS-6	YS300CS-6	8.31	3.75	5.00	1/2"	10.0	C/F
1"	YS300SS-8	YS300CS-8	8.31	3.75	5.00	1/2"	13.5	C/F
1-1/4"	YS300SS-10	YS300CS-10	10.12	5.50	8.00	1/2"	26.0	C/F
1-1/2"	YS300SS-12	YS300CS-12	10.25	5.50	8.00	1/2"	26.0	42
2"	YS300SS-16	YS300CS-16	9.62	5.25	7.00	1/2"	25.0	70
2-1/2"	YS300SS-20	YS300CS-20	10.62	6.50	9.75	1"	40.0	110
3"	YS300SS-24	YS300CS-24	12.00	7.00	10.00	1"	52.5	160
3-1/2"	YS300SS-28	YS300CS-28	N/A	N/A	N/A	N/A	N/A	N/A
4"	YS300SS-32	YS300CS-32	14.5	8.25	12.00	1-1/2"	90.5	260
5"	YS300SS-40	YS300CS-40	19.31	11.25	17.00	2"	161.5	400
6"	YS300SS-48	YS300CS-48	19.31	13.50	20.00	2"	185.5	570
8"	YS300SS-64	YS300CS-64	23.37	15.50	22.75	2"	300.0	950
10"	YS300SS-80	YS300CS-80	27.37	18.50	28.00	2"	480.0	1600
12"	YS300SS-96	YS300CS-96	32.00	21.75	30.00	2"	728.0	2200



## Bill of Materials

NO.	PART #	YS300CS	YS300SS
1	Body	ASTM A216 GR. WCB	ASTM A351 GR. CF8M
2	Cover	ASTM A216 GR. WCB	ASTM A351 GR. CF8M
3	Screen	Type 304 Stainless Steel	
4	Gasket	Type 304 Stainless Steel Spiral Wound Non-Asbestos	
5	Studs	ASTM A193 GR. B7	ASTM A193 GR. B8 T316SS
6	Nuts	ASTM A194 GR. 2H	ASTM A194 GR. 8 T316SS
7	Plug	ASTM A105	A182 GR. F316

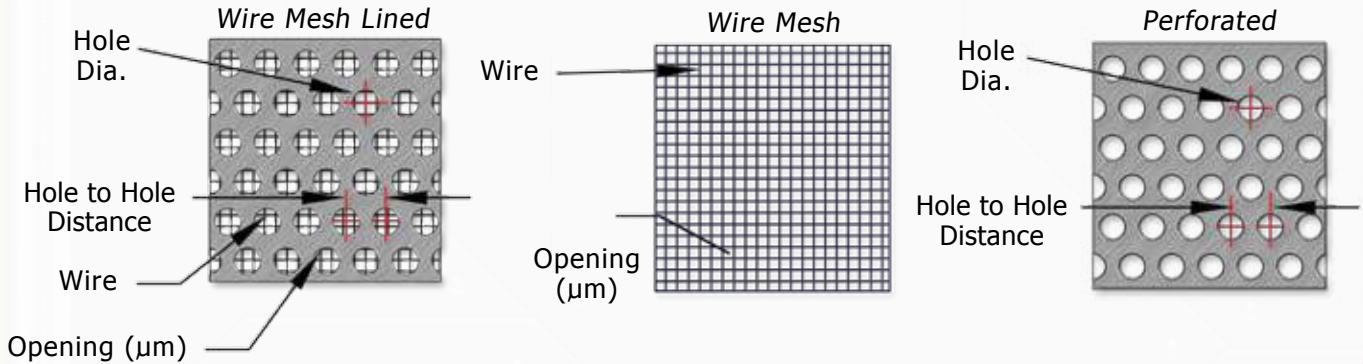


# Y-Strainer Filter Material Data

## General Recommended Sizes By Application

Pipe Size	Filtering Grade	Media					
		Air/Gas	Oil			Steam	Water
			Low Viscosity	Medium Viscosity	High Viscosity		
1/2" Through 2"	Coarse	1/32" Perf	1/16" Perf	1/10" Perf	1/8" Perf	1/32" Perf	1/32" Perf
	Medium	60 Mesh	1/32" Perf	1/16" Perf	1/10" Perf	30 Mesh	20 Mesh
	Fine	100 Mesh	30 Mesh	20 Mesh	1/16" Perf	60 Mesh	30 Mesh
2-1/2" Through 4"	Coarse	1/16" Perf	3/16" Perf	1/4" Perf	3/8" Perf	3/64" Perf	1/8" Perf
	Medium	3/64" Perf	1/8" Perf	3/16" Perf	1/4" Perf	1/32" Perf	1/16" Perf
	Fine	60 Mesh	3/16" Perf	1/8" Perf	3/16" Perf	30 Mesh	3/64" Perf

## Screen Types



### Standard Perf. Sizes

Hole Diameter	Distance hole to hole	% Open Area
1/32"	.055	28
3/64"	.066	36
1/16"	.093	41
1/8"	.187	40
5/32"	.187	63
1/4"	.312	58

### Standard Mesh Sizes

Mesh (Linear in)	Micron (µm)	Wire Diameter
20	914	.014
30	566	.011
40	381	.010
60	246	.007
80	190	.005
100	139	.0045

### NOTES:

- 1.) Unsupported wire mesh strainers are recommended for 2" and under line size not exceeding 200 psi. Anything over these values should use wire mesh lined strainer elements. The most common backing is 5/32" perf.
- 2.) To determine strainer rating, consult engineer. Single strainer applications should be approx. 1/2 opening size of largest projected particle to be strained. However, a good rule of thumb is to not exceed 20 psi drop across a strainer. If exceeding this value, straining may need to be staged with more than one strainer in line. Start with coarse straining and integrate finer additional strainers with finer elements down stream.
- 3.) All strainer mesh and perforated screen 304 stainless steel. Other materials available upon request. (316 SS, Monel)
- 4.) A wide array of nonstandard mesh and perf sizes are available. consult factory for more information.

YS36



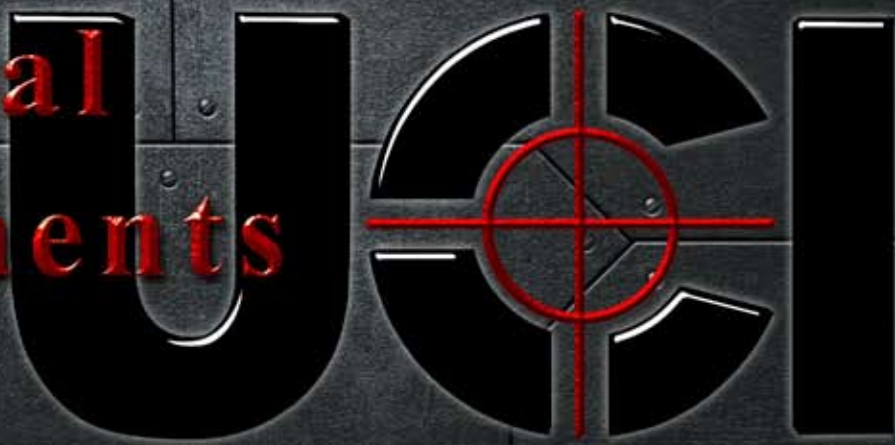
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Rock Hill, SC 29730



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Filters &  
Mufflers



# SBM and SSBM Mufflers

## Features:

### SBM Series:

- Electroless Nickel Plated Steel Fitting
- 40 Micron Sintered Bronze Element
- 300 PSIG Maximum Working Pressure
- Temperature 35°F to 300°F

### SSBM Series:

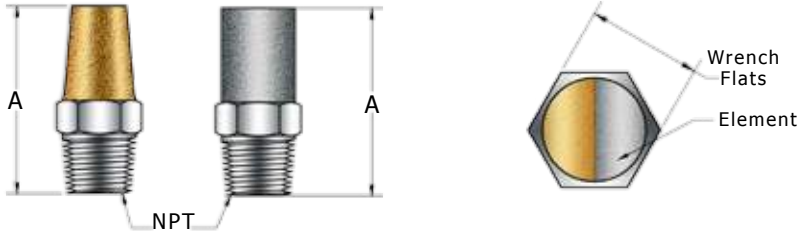
- 303 Stainless Steel Body
- 70 Micron Sintered 316 S.S. Element
- 300 PSIG Maximum Working Pressure
- Temperature 35°F to 392°F



SBM

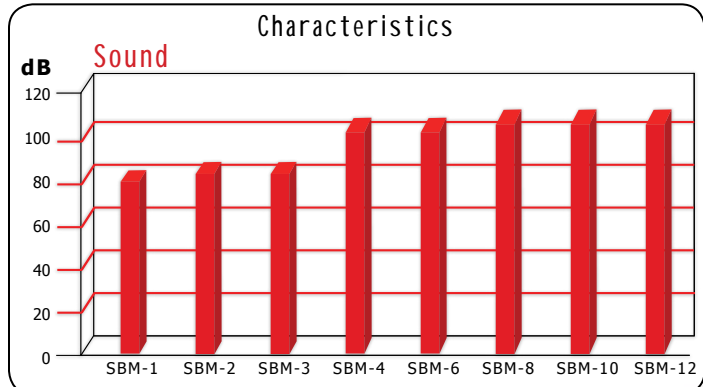
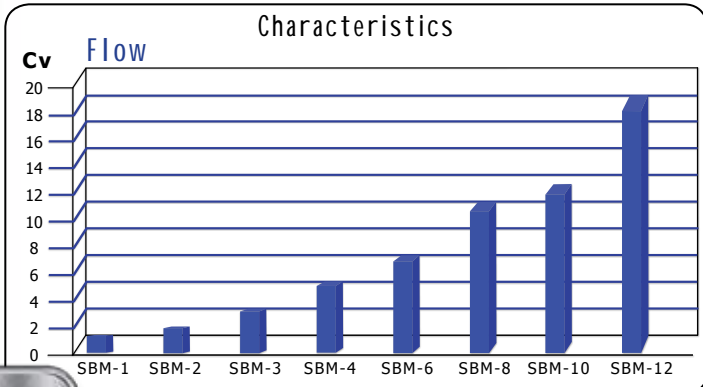


SSBM



## Dimensions:

Part	NPT Size	A	Wrench Flats	Body	Element
SBM-M	10/32"	0.70	5/16"	Electroless Nickel Plated Steel Fitting	40 Micron Sintered Bronze
SBM-1	1/8"	0.90	7/16"		
SBM-2	1/4"	1.38	9/16"		
SBM-3	3/8"	1.50	11/16"		
SBM-4	1/2"	1.88	7/8"		
SBM-6	3/4"	2.25	1-1/16"		
SBM-8	1"	2.88	1-5/16"		
SBM-10	1-1/4"	3.25	1-11/16"		
SBM-12	1-1/2"	3.69	2"	303 Grade Stainless Steel	316 Stainless Steel, 70 Micron
SSBM-M	10/32"	0.72	5/16"		
SSBM-1	1/8"	1.09	1/2"		
SSBM-2	1/4"	1.38	5/8"		
SSBM-3	3/8"	1.88	3/4"		
SSBM-4	1/2"	2.25	1-5/16"		
SSBM-6	3/4"	2.80	1-1/8"		
SSBM-8	1"	3.17	1-1/2"		





# BV and SSBV Breather Vent

## Features:

### BV Series:

- Electroless Nickel Plated Steel Fitting
- 40 Micron Sintered Bronze Element
- 150 PSIG Maximum Working Pressure
- Temperature 35°F to 300°F

### SSBV Series:

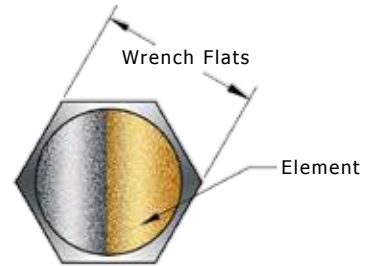
- 303 Stainless Steel Body
- 70 Micron Sintered 316 S.S. Element
- 150 PSIG Maximum Working Pressure
- Temperature 35°F to 392°F



BV



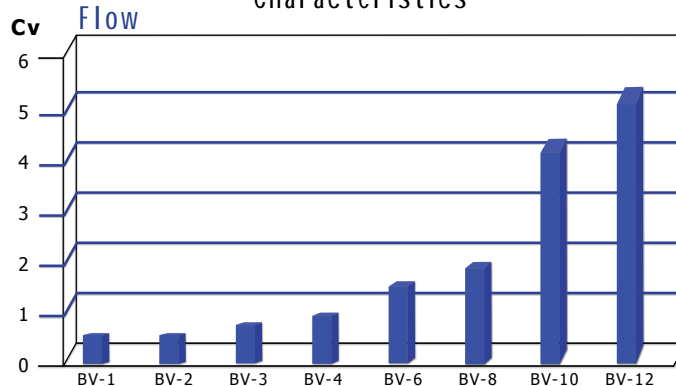
SSBV



## Dimensions:

Part	NPT Size	A	Wrench Flats	Body	Element
BV-1	1/8"	0.44	7/16"	Electroless Nickel Plated Steel Fitting	40 Micron Sintered Bronze
BV-2	1/4"	0.63	9/16"		
BV-3	3/8"	0.75	11/16"		
BV-4	1/2"	0.88	7/8"		
BV-6	3/4"	1.00	1-1/16"		
BV-8	1"	1.31	1-5/16"		
BV-10	1-1/4"	1.41	1-11/16"		
BV-12	1-1/2"	1.50	2"		
SSBV-1	1/8"	0.58	1/2"	303 Grade Stainless Steel	316 Stainless Steel, 70 Micron
SSBV-2	1/4"	0.78	5/8"		
SSBV-3	3/8"	0.81	3/4"		
SSBV-4	1/2"	0.96	1-5/16"		
SSBV-6	3/4"	1.05	1-1/8"		
SSBV-8	1"	1.30	1-1/2"		

## Characteristics





# SCM and SSCM Series Speed Control Muffler

## Features:

### SCM Series:

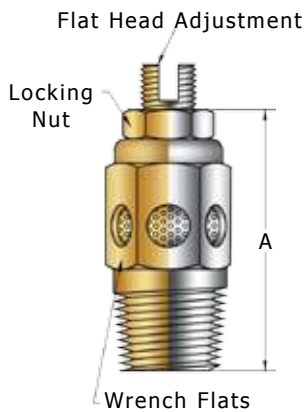
- Brass Construction
- 40 Micron Sintered Bronze Element
- 300 PSIG Maximum Working Pressure
- Temperature 35°F to 300°F

### SSCM Series:

- 303 Stainless Steel Body
- 70 Micron Sintered 316 S.S. Element
- 300 PSIG Maximum Working Pressure
- Temperature 35°F to 392°F



SCM



SCM-1	0 to 30	SCFM
SCM-2	0 to 40	SCFM
SCM-3	0 to 62	SCFM
SCM-4	0 to 103	SCFM
SCM-6	0 to 110	SCFM
SCM-8	0 to 140	SCFM

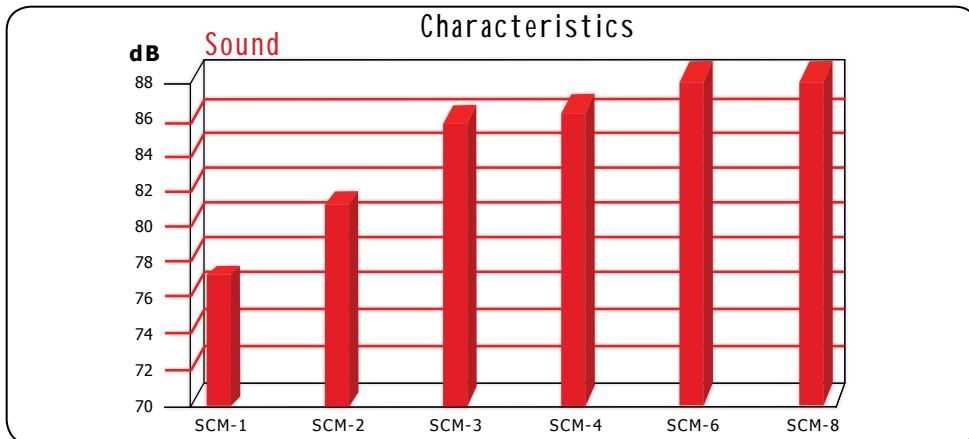


SSCM

## Dimensions:

Part	NPT Size	A	Height Full Open	Wrench Flats	Body	Element
-	SCM-1	1/8"	1.31	1.5	1/2"	Brass Fitting 40 Micron Sintered Bronze
SCM-1-H*	SCM-2	1/4"/1/8"*	1.56	1.8	6/16"	
SCM-2-H*	SCM-3	3/8"/1/4"*	1.63	2	11/16"	
SCM-3-H*	SCM-4	1/2"/3/8"*	2.00	2.4	7/8"	
SCM-4-H*	SCM-6	3/4"/1/2"*	2.38	2.9	1-1/16"	
-	SCM-8	1"	2.50	3.1	1-5/16"	303 Grade Stainless Steel 316 Stainless Steel, 70 Micron
-	SSCM-1	1/8"	1.53	1.5	1/2"	
-	SSCM-2	1/4"	1.92	1.8	9/16"	
-	SSCM-3	3/8"	2.06	2	11/16"	
-	SSCM-4	1/2"	2.39	2.4	7/8"	
-	SSCM-6	3/4"	2.84	2.9	1-1/16"	
-	SSCM-8	1"	3.06	3.1	1-3/8"	

\* High Flow





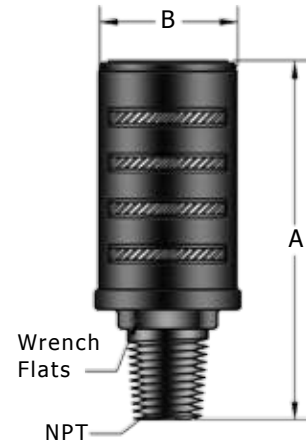


# HPM Series Mufflers

## Features:

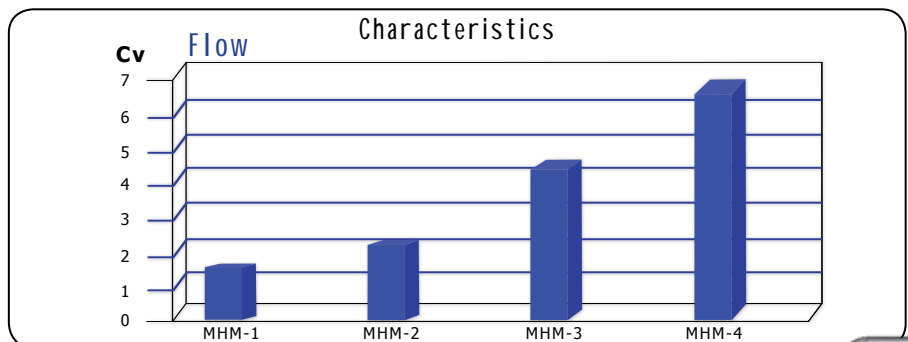
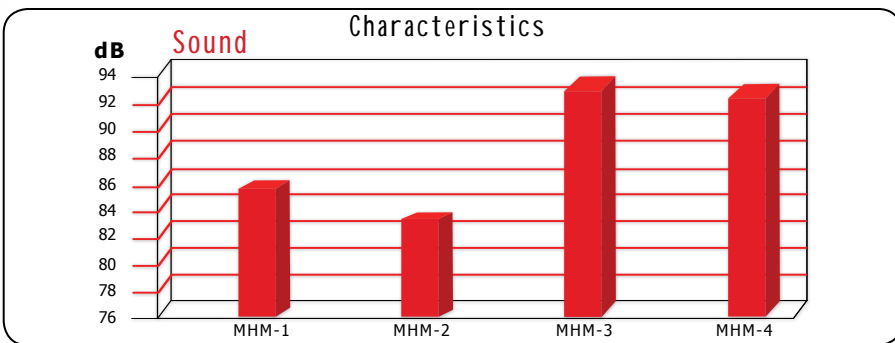
### HPM Series:

- Nylon Housing
- Stainless Steel Wire Element
- 150 PSIG Maximum Working Pressure
- Temperature 35°F to 120°F



## Dimensions:

Part	NPT Size	A	B	Wrench Flats	Body	Screen
HPM-1	1/8"	2.13	0.83	13/16"	Nylon	Stainless Steel Wire
HPM-2	1/4"	2.25	0.83	13/16"		
HPM-3	3/8"	3.44	1.25	1 1/4"		
HPM-4	1/2"	3.56	1.25	1 1/4"		





# MHS and MHA Series Mufflers

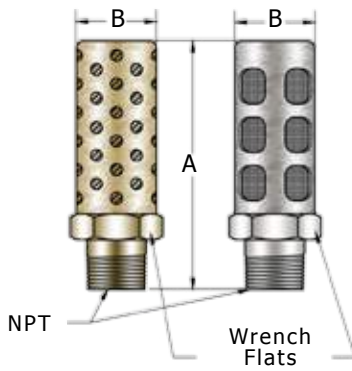
## Features:

### MHS Series:

- Steel Housing
- Stainless Steel Wire Element
- 300 PSIG Maximum Working Pressure
- Temperature 35°F to 160°F

### MHA Series:

- Aluminum Housing
- 50 Mesh Stainless Steel Wire Element
- 300 PSIG Maximum Working Pressure
- Temperature 35°F to 160°F



MHS

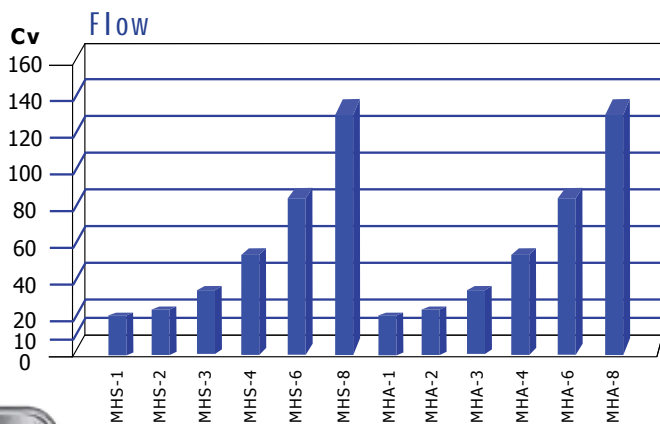


MHA

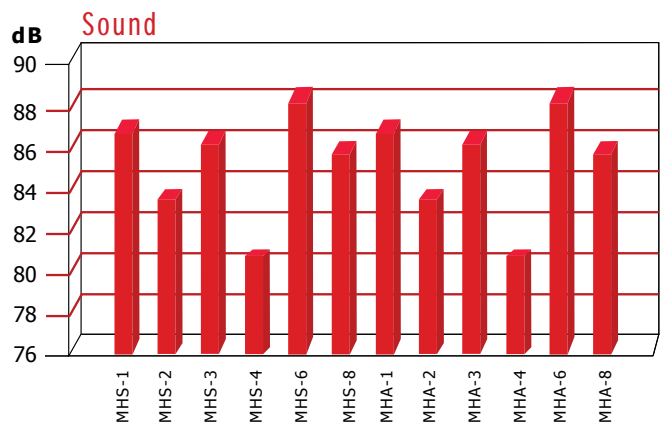
## Dimensions:

Part	NPT Size	A	B	Wrench Flats	Body	Screen
MHS-1	1/8"	1.38	0.43	7/16"	Steel	50 Mesh Stainless Steel Screen
MHS-2	1/4"	1.75	0.56	9/16"		
MHS-3	3/8"	2.25	0.70	11/16"		
MHS-4	1/2"	2.75	0.87	7/8"		
MHS-6	3/4"	3.06	1.06	1-1/16"		
MHS-8	1"	3.88	1.31	1-5/16"		
MHS-10	1-1/4"	4.50	1.68	1-11/16"		
MHS-12	1-1/2"	5.00	1.97	2"		
MHS-16	2"	5.50	2.30	2-3/8"	Aluminum	50 Mesh Stainless Steel Screen
MHA-1	1/8"	1.44	0.44	7/16"		
MHA-2	1/4"	1.80	0.57	9/16"		
MHA-3	3/8"	2.30	0.69	11/16"		
MHA-4	1/2"	2.78	0.88	7/8"		
MHA-6	3/4"	3.19	1.05	1-1/16"		
MHA-8	1"	3.89	1.31	1-5/16"		

### Characteristics



### Characteristics



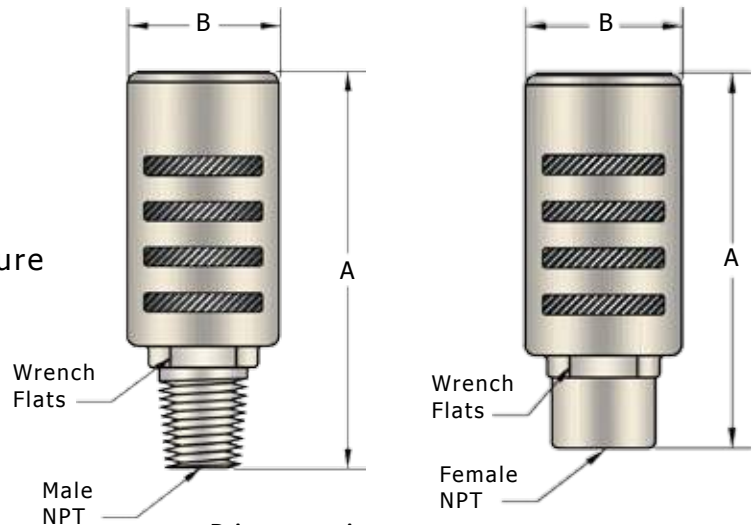


# MHM and FHM Series Mufflers

## Features:

### MHM and FHM Series:

- Aluminum Housing
- Stainless Steel Wire Screen
- 300 PSIG Maximum Working Pressure
- Temperature 35°F to 160°F



MHM

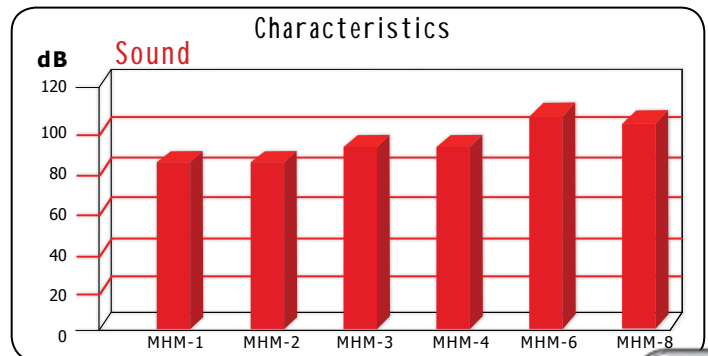
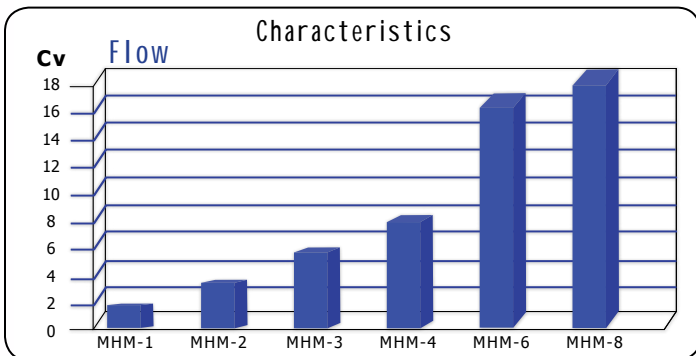


FHM

## Dimensions:

Part	NPT Size	A	B	Wrench Flats	Body	Screen
MHM-1	1/8"	1.88	0.80	5/8"	Aluminum  Note: Available in Stainless Steel	Stainless Steel Wire
MHM-2	1/4"	1.88	0.80	5/8"		
MHM-3	3/8"	3.25	1.23	1"		
MHM-4	1/2"	3.25	1.23	1"		
MHM-6	3/4"	4.63	2.00	1-5/8"		
MHM-8	1"	4.63	2.00	1-5/8"		

Part	NPT Size	A	B	Wrench Flats	Body	Screen
FHM-1	1/8"	1.88	0.80	5/8"	Aluminum  Note: Available in Stainless Steel	Stainless Steel Wire
FHM-2	1/4"	1.88	0.80	5/8"		
FHM-3	3/8"	3.25	1.23	1"		
FHM-4	1/2"	3.25	1.23	1"		
FHM-6	3/4"	4.63	2.00	1-5/8"		
FHM-8	1"	4.63	2.00	1-5/8"		
FHM-10	1-1/4"	5.50	C/F	2-1/2"		
FHM-12	1-1/2"	5.50	C/F	2-1/2"		
FHM-16	2"	6.44	C/F	3"		





# HIT Series Hydraulic IN-LINE T-Type Filters

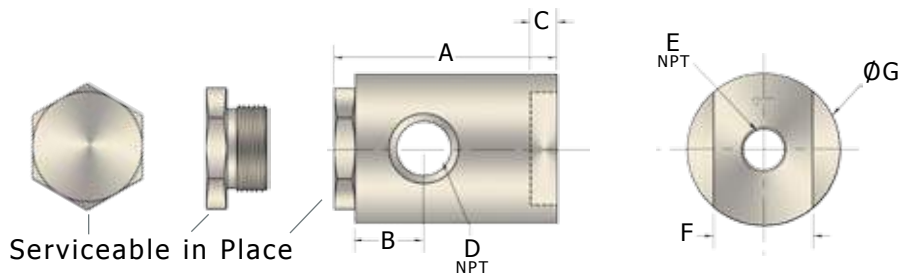
## Features:

### HIT Series:

- Clear Anodized Aluminum
- 25 Micron Sintered Bronze Element
- 5000 PSIG (Hydraulic only) Max. Working Pressure
- Buna-N Seals 35°F to 200°F

### Options:

Viton Seals, Suffix "V" 35°F to 400°F  
 Micron Size, Suffix "10", "40", "90"  
 (Example HIT-290), (Kit Example EK2-90)

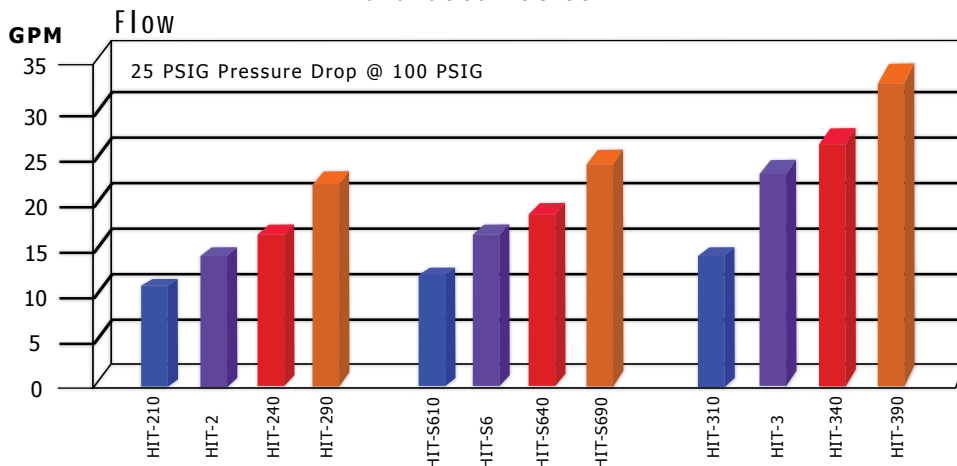


## Dimensions:

Part	A	B	C	D NPT	E NPT	F	ØG	spring Kit	element Kit	Body	Element
HIT-2	3.18	0.96	0.38	1/4"	1/4"	1.38	2.13	SK2T	EK2	2011-T3 Aluminum	25 Micron Sintered Bronze
HIT-2V	3.18	0.96	0.38	1/4"	1/4"	1.38	2.13	SK2T	EK2V		
HIT-3	3.18	0.96	0.38	3/8"	3/8"	1.38	2.13	SK2T	EK2		
HIT-3V	3.18	0.96	0.38	3/8"	3/8"	1.38	2.13	SK2T	EK2V		

Part	A	B	C	D NPT	E NPT	F	ØG	spring Kit	element Kit	Body	Element
HIT-S6	3.18	1.01	0.38	3/8"	9/16"	1.38	2.13	SK2T	EK2	2011-T3 Aluminum	25 Micron Sintered Bronze
HIT-S6V	3.18	1.01	0.38	3/8"	9/16"	1.38	2.13	SK2T	EK2V		

## Characteristics





# HIF Series Hydraulic IN-LINE Filters

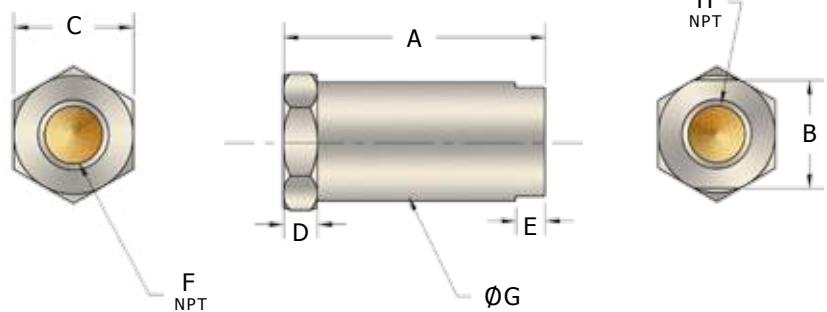
## Features:

### HIF Series:

- Clear Anodized Aluminum Filter
- 25 Micron Sintered Bronze Element
- 3000 PSIG (Hydraulic only) Max. Working Pressure
- Buna-N Seals 35°F to 200°F

### Options:

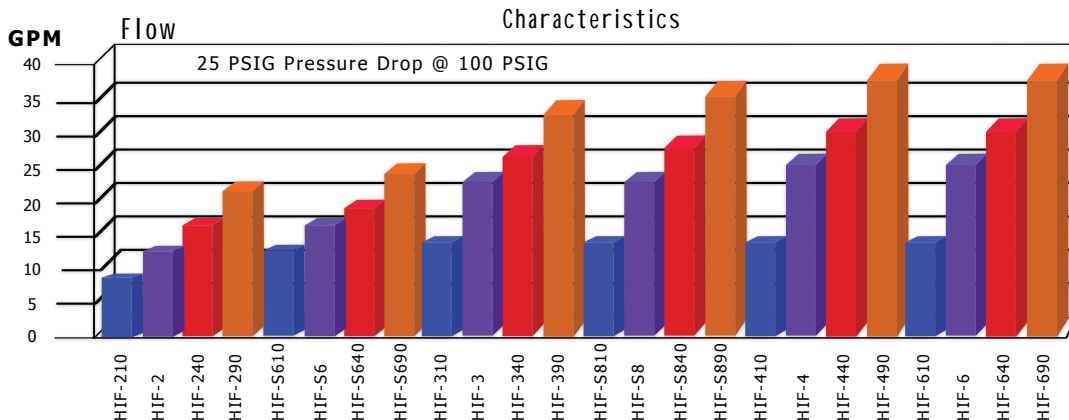
Viton Seals, Suffix "V" 35°F to 400°F  
 Micron Size, Suffix "10", "40", "90"  
 (Example HIF-290), (Kit Example EK2-90)



## Dimensions:

Part	A	B	C	D	E	F NPT	ØG	H NPT	spring Kit	element Kit	Body	Element
HIF-2	3.30	1.38	1.50	0.43	0.37	1/4"	1.50	1/4"	SK2	EK2	2011-T3 Aluminum	25 Micron Sintered Bronze
HIF-2V	3.30	1.38	1.50	0.43	0.37	1/4"	1.50	1/4"	SK2	EK2V		
HIF-3	3.30	1.38	1.50	0.43	0.37	3/8"	1.50	3/8"	SK2	EK2		
HIF-3V	3.30	1.38	1.50	0.43	0.37	3/8"	1.50	3/8"	SK2	EK2V		
HIF-4	4.92	1.38	1.50	0.45	0.37	1/2"	1.50	1/2"	SK4	EK4		
HIF-4V	4.92	1.38	1.50	0.45	0.37	1/2"	1.50	1/2"	SK4	EK4V		
HIF-6	4.92	1.38	1.50	0.45	0.37	3/4"	1.50	3/4"	SK4	EK4		
HIF-6V	4.92	1.38	1.50	0.45	0.37	3/4"	1.50	3/4"	SK4	EK4V		

Part	A	B	C	D	E	F SAE	ØG	H SAE	spring Kit	element Kit	Body	Element
HIF-S6	3.30	1.38	1.50	0.43	0.37	9/16"	1.50	9/16"	SK2	EK2	2011-T3 Aluminum	25 Micron Sintered Bronze
HIF-S6V	3.30	1.38	1.50	0.43	0.37	9/16"	1.50	9/16"	SK2	EK2V		
HIF-S8	3.30	1.38	1.50	0.43	0.37	1/2"	1.50	1/2"	SK2	EK2		
HIF-S8V	3.30	1.38	1.50	0.43	0.37	1/2"	1.50	1/2"	SK2	EK2V		





# PIF Series Pneumatic Filters

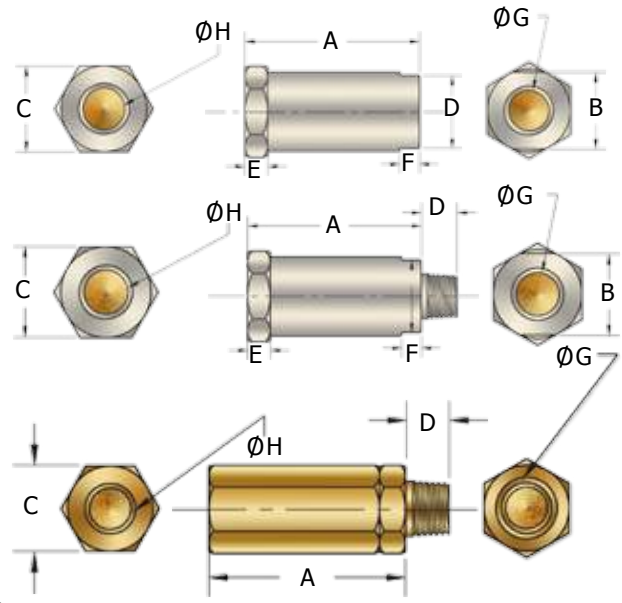
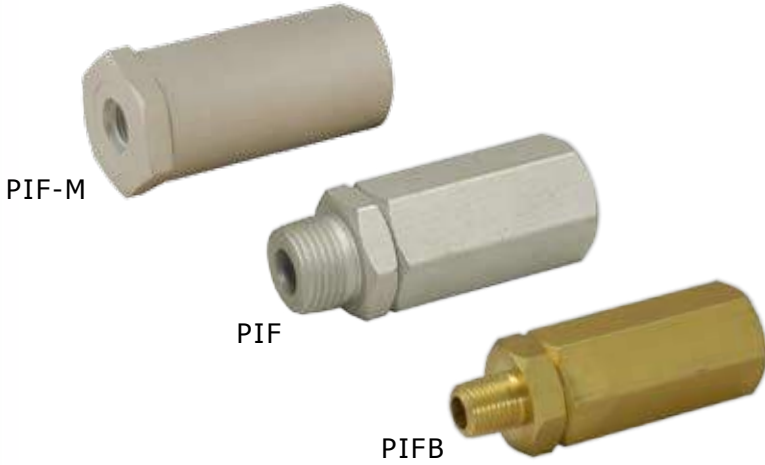
## Features:

### PIF Series:

- (PIF) Aluminum Housing, (PIFB) Brass Housing
- 40 Micron Sintered Bronze Element
- 500 PSIG Maximum Working Pressure
- Buna-N Seals 35°F to 200°F
- M=Female Inlet/Male Outlet
- Female Inlet/Female Outlet: PIF-4 & PIF-6

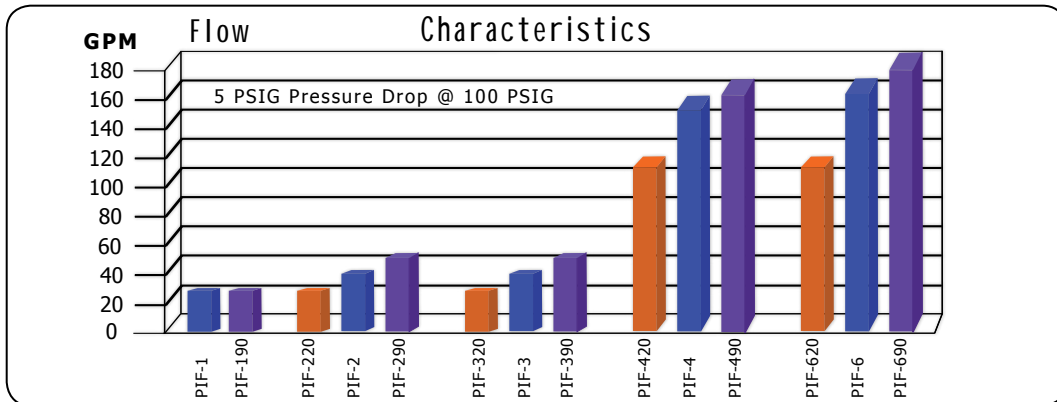
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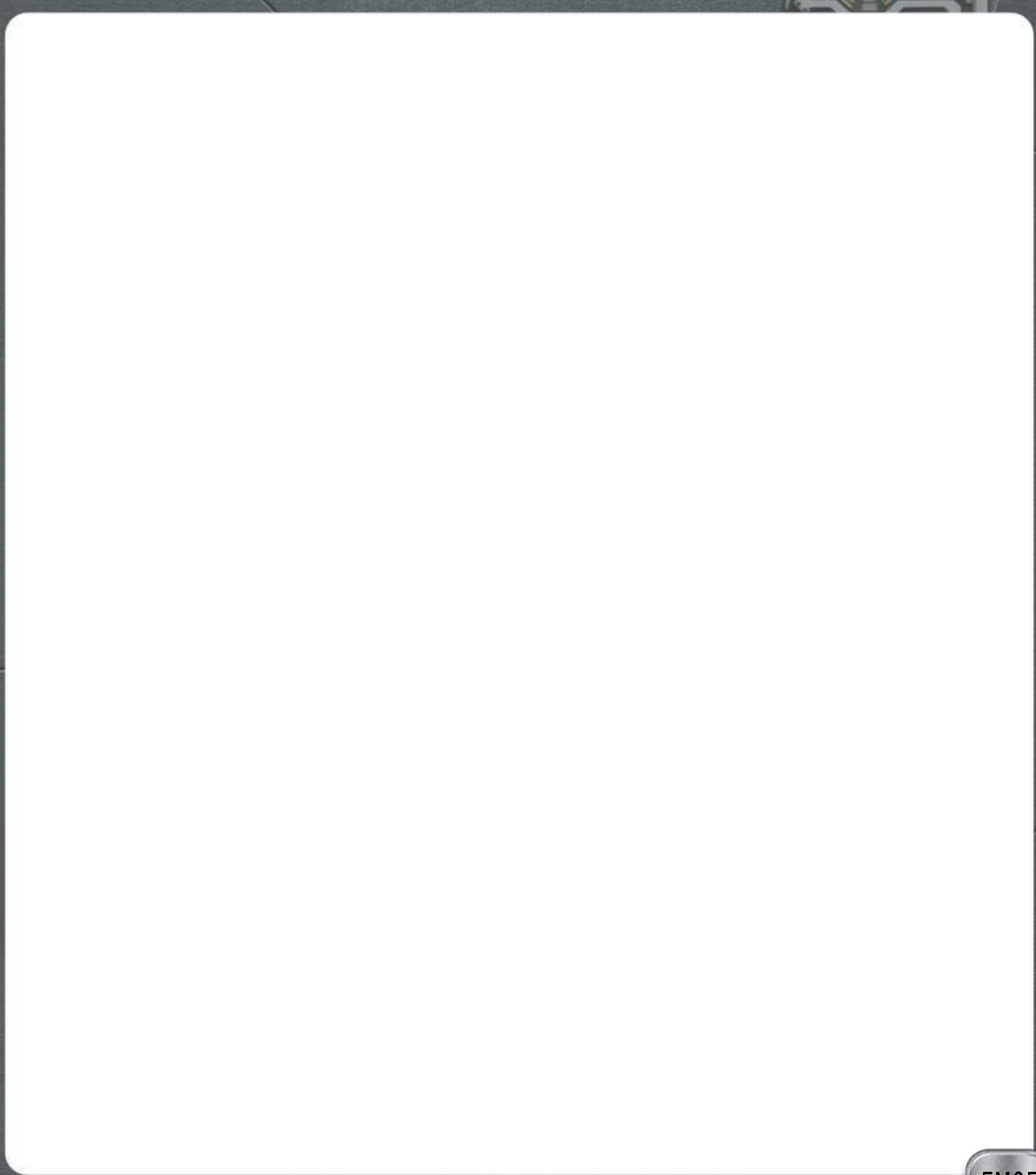
- Viton Seals, Suffix "V" 35°F to 400°F
- Micron Size, Suffix "20", "90"
- (Example PIF-1M90), (Kit Example EK2-90)



## Dimensions:

Part	A	B	C	D	E	F	ØG NPT	ØH NPT	spring Kit	element Kit	Body	Element
PIFB-1M	1.88	-	0.74	0.41	-	-	1/8"	1/8"	SKP2	EKP2	Brass	40 Micron Sintered Bronze
PIF-1M	1.88	-	0.74	0.41	-	-	1/8"	1/8"	SKP2	EKP2	2011-T3 Aluminum	
PIF-2M	2.29	-	0.74	0.41	-	-	1/4"	1/4"	SKP2	EKP2		
PIF-3M	1.87	-	0.86	0.44	-	-	3/8"	3/8"	SKP2	EKP2		
PIF-4	3.30	1.38	1.50	1.38	0.43	0.37	1/2"	1/2"	SKP4	EKP4		
PIF-4M	3.30	1.38	1.50	0.68	0.43	0.37	1/2"	1/2"	SKP4	EKP4		
PIF-6	3.30	1.38	1.50	1.38	0.43	0.37	3/4"	3/4"	SKP4	EKP4		
PIF-6M	3.30	1.38	1.50	0.68	0.43	0.37	3/4"	3/4"	SKP4	EKP4		





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Gauges



# ANSI/ASME B40.1

## HIGHLIGHTS of ANSI/ASME B40.1

### INSTALLATION:

GAUGE SHOULD BE INSTALLED BY TIGHTENING THE PRESSURE CONNECTION USING THE WRENCH FLATS PROVIDED. FAILURE TO DO SO MAY RESULT IN LOSS OF ACCURACY AND/OR MECHANICAL DAMAGE

### OPERATING PRESSURE:

THE OPERATING PRESSURE SHOULD OCCUR IN THE MIDDLE HALF (25%-75%), OF THE FULL SCALE PRESSURE OF THE GAUGE SELECTED. THE OPERATING PRESSURE SHOULD BE HALF OF THE FULL PRESSURE OF THE GAUGE

### OVER PRESSURE FAILURE:

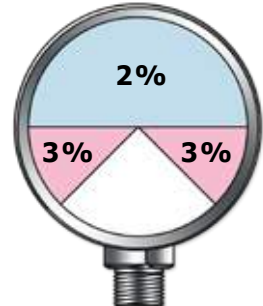
WHEN VALVES OPEN OR CLOSE, SHORT DURATION PRESSURE IMPULSES MAY BE MANY TIMES THE NORMAL OPERATING PRESSURE AND MAY NOT BE INDICATED BY THE GAUGE. THE RESULT COULD BE IMMEDIATE FAILURE OR LOSS OF ACCURACY. OPERATING PRESSURE SHOULD NEVER EXCEED 75% OF FULL SCALE.

### VIBRATION FAILURE:

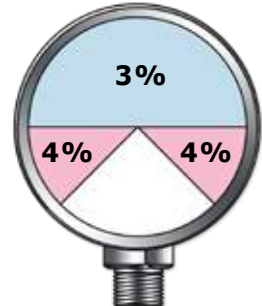
VIBRATION OR HIGH CYCLIC LOADING WILL CAUSE GRADUAL LOSS OF ACCURACY AND FAILURE OF THE POINTER. IT MAY ALSO CAUSE CRACKS IN THE ELEMENT OR JOINTS WHICH COULD RESULT IN A FAILURE SIMILAR TO AN EXPLOSIVE FAILURE. PRESSURE SNUBBERS AND GLYCERINE FILLED GAUGES ARE RECOMMENDED IN THESE APPLICATIONS.

### WARNING:

MISUSE OF PRODUCT MAY CAUSE EXPLOSION AND PERSONAL INJURY. READ ANSI-B40.1 AND APPARATUS INSTALLATION/OPERATION MANUALS BEFORE USING.



ANSI GRADE B



ANSI GRADE C

# How To Order



## GAUGE ORDER NUMBER MATRIX

**SSG**

**25**

**0**

**2**

-

**1.5K**

**10** = 1"  
**15** = 1-1/2"  
**20** = 2"  
**25** = 2-1/2"  
**35** = 3-1/2"  
**40** = 4"  
**45** = 4-1/2"

**0** = Back  
**1** = Bottom

**1** = 1/8" NPT  
**2** = 1/4" NPT  
**4** = 1/2" NPT  
 (only available in  
 4" & 4.5" Dial  
 Diameter)

**V** = 30 HG-0  
**C** = 30 HG-0-30  
**15** = 0-15  
**30** = 0-30  
**60** = 0-60  
**100** = 0-100  
**200** = 0-200  
**300** = 0-300  
**400** = 0-400  
**500** = 0-500  
**600** = 0-600  
**1K** = 0-1000  
**1.5K** = 0-1500  
**2K** = 0-2000  
**3K** = 0-3000  
**5K** = 0-5000  
**6K** = 0-6000  
**10K** = 0-10000  
**15K** = 0-15000

**PAD** = PLASTIC CASE **ACRYLIC** LENS **DRY**  
**SAD** = STEEL CASE **ACRYLIC** LENS **DRY**  
**SGD** = STEEL CASE **GLASS** LENS **DRY**  
**SSG** = STAINLESS STEEL CASE **GLYCERINE** FILLED  
**SPM** = STEEL CASE **PANEL** MOUNT **DRY**  
**LSS** = LIQUID FILLED ALL **STAINLESS STEEL**  
**SSAD** = ALL **STAINLESS STEEL** **ACRYLIC** LENS **DRY**  
**DPG** = **DRY** PROCESS **GAUGE** (FILLABLE)



# Dry Gauges

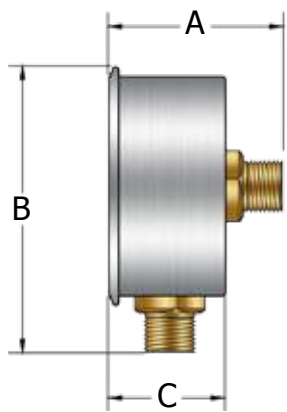


Center-Back Mount

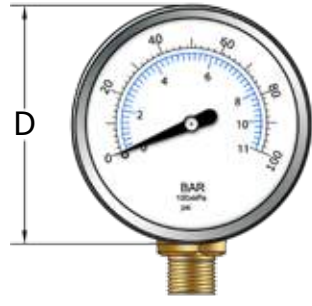


Bottom Mount

- ## Features:
- Utility Gauges for Commercial and Industrial Markets
  - Black Steel Case with Chrome Bezel
  - Copper Alloy Internals
  - Available with Stainless Steel Case
  - Certificate of Accuracy, NIST Traceable C/F
  - Temperature Range -50°F to 160°F

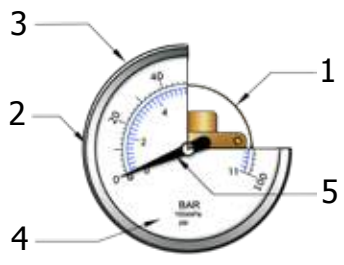


CBM = Center Back Mount  
LM = Lower Mount



## Dimensions

Face Size	Connection	A (CBM Only)	B (LM Only)	C	D
1"	1/8" NPT		n/a	.64/16mm (n/a)	.99/25mm (n/a)
1-1/2"	1/8" NPT	1.54/39mm	2.26/57mm	.93/24mm	1.64/42mm
2"	1/8" or 1/4" NPT	1.90/48mm	2.83/72mm	1.03/26mm (1.06/27mm)	2.07/53mm
2-1/2"	1/4" NPT	1.97/50mm	3.31/84mm	1.17/30mm (1.13/29mm)	2.50/63mm
3-1/2"	1/4" NPT	2.02/51mm	4.49/114mm	1.22/31mm (1.12/28mm)	3.49/89mm (3.53/90mm)
4-1/2"	1/4" or 1/2" NPT	2.18/55mm	5.80/147mm	1.31/33mm (1.12/29mm)	4.50/114mm (4.79/122mm)



## Bill of Materials

No.	Part	Material
1	Internals	Copper Alloy
2	Case	Black, Steel
3	Bezel	Chrome Plated Steel
4	Lens	Plastic
5	Pointer	Black, Aluminum

# Glycerin Filled Gauges



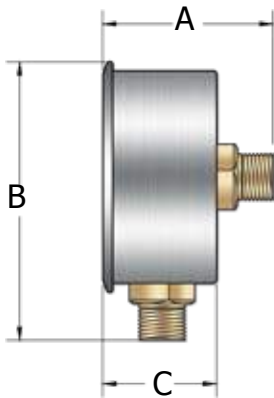
Bottom Mount

Center-Back Mount

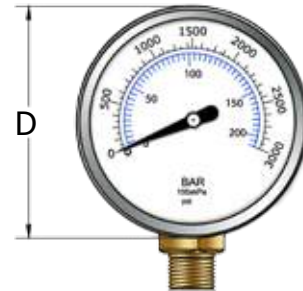


## Features:

- Glycerin Filled for added Durability and Vibration
- Stainless Steel Case and Bezel
- Copper Alloy Internals
- Certificate of Accuracy, NIST Traceable C/F
- Temperature Range 30°F to 160°F



CBM = Center Back Mount  
LM = Lower Mount

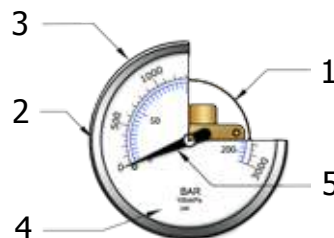


## Dimensions

Face Size	Connection	A (CBM Only)	B (LM Only)	C	D
1-1/2"	1/8" NPT	1.74/44mm	2.28/58mm	1.02/26mm (1.00/25mm)	1.85/47mm
2"	1/8" or 1/4" NPT	2.08/53mm	2.95/75mm	1.18/30mm (1.20/31mm)	2.28/58mm
2-1/2"	1/4" NPT	2.28/58mm	3.55/90mm	1.34/34mm (1.40/36mm)	2.80/71mm
4"	1/4" or 1/2" NPT	3.15/80mm	5.21/132mm	1.16/29mm (1.75/45mm)	4.29/109mm

## Bill of Materials

No.	Part	Material
1	Internals	Copper Alloy
2	Case	Stainless Steel
3	Bezel	Stainless Steel
4	Lens	Polycarbonate
5	Pointer	Black, Aluminum

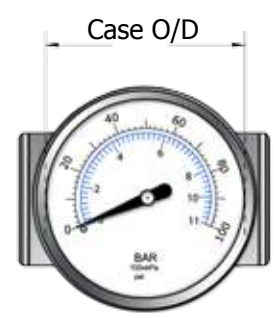
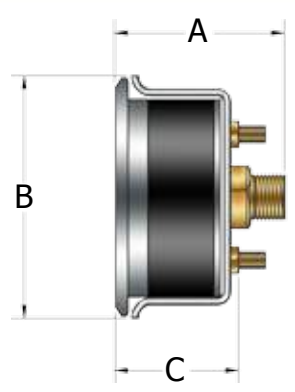




# Panel Mount Gauges

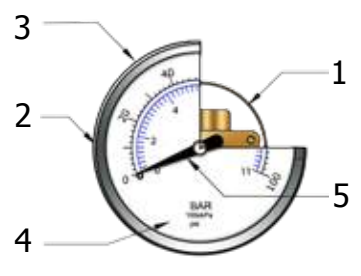


- ### Features:
- Utility Gauges for Commercial and Industrial Markets
  - Chrome Plated Steel Case and Bezel
  - Copper Alloy Internals
  - Certificate of Accuracy, NIST Traceable C/F
  - Temperature Range -50°F to 160°F



## Dimensions

Size	Connection	A	B	C	Case O/D
1-1/2"	1/8" NPT	1.61/41mm	1.84/47mm	1.03/26mm	1.61/41mm
2"	1/8" or 1/4" NPT	1.84/47mm	2.31/59mm	1.18/30mm	2.04/52mm
2-1/2"	1/4" NPT	1.87/48mm	2.68/68mm	1.12/28mm	2.44/62mm
3-1/2"	1/4" NPT	2.02/51mm	3.98/101mm	1.23/31mm	3.59/91mm



## Bill of Materials

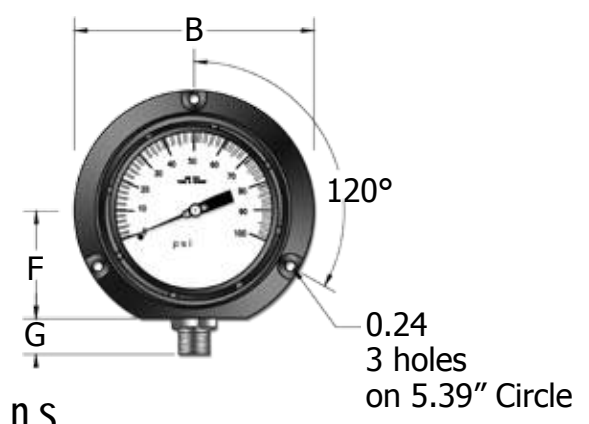
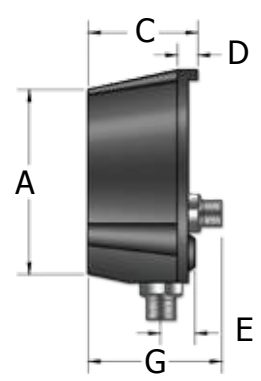
No.	Part	Material
1	Internals	Copper Alloy
2	Case	Chrome Plated Steel
3	Bezel	Chrome Plated Steel
4	Lens	Plastic
5	Pointer	Black, Aluminum

# DPG Process Gauges



## Features:

- Solid Front Blow-Out Back Safety Case
- Field Liquid Fill-able
- 316 Stainless Steel Internals
- Certificate of Accuracy, NIST Traceable C/F
- Temperature Dry -30°F to 160°F
- Temperature Glycerine Filled 30°F to 160°F

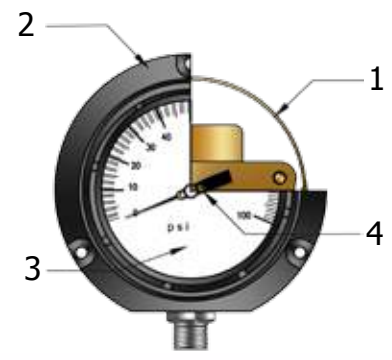


## Dimensions

Connection	Face	A	B	C	D	E	F	G	NPT
Back	4-1/2"	5.08	5.84	3.44	1.10	-	2.54	4.27	1/2"
Bottom	4-1/2"	5.07	5.91	3.03	0.91	1.38	2.56	1.38	1/4"

## Bill of Materials

No.	Part	Material
1	Internals	Stainless Steel
2	Case	Phenolic Case
3	Lens	Polycarbonate
4	Pointer	Black, Aluminum



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