

# Bellows-Sealed Valves

BS2 Series

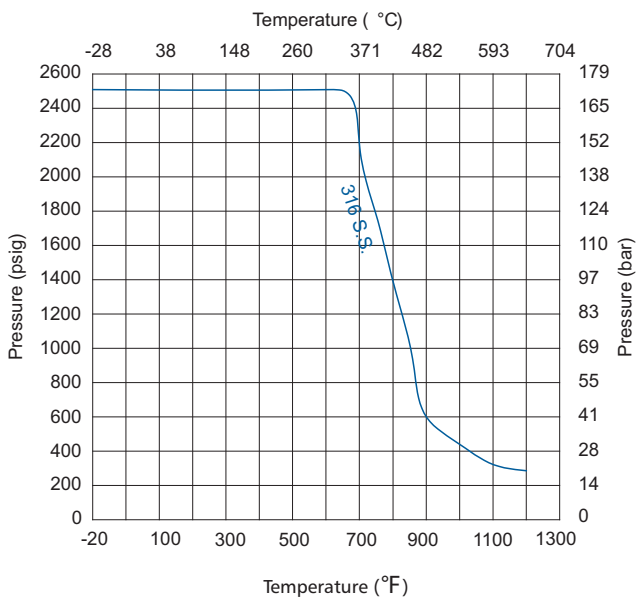


- ❖ Working pressure up to: 2500 psig (172 bar)
- ❖ Working temperature: -20°F to 1200°F (-28°C to 649°C)
- ❖ Variety of end connections
- ❖ 316 SS body material

## Features

- ❖ Upper packing provides secondary containment system above the bellows
- ❖ Hydraulic-formed multilayer bellows enhanced cycle life
- ❖ Nonrotating stem tip eliminates galling within the seat area
- ❖ Strictly controlled bellows stroke to improve safety and cycle life
- ❖ Replaceable bellows and stem assembly
- ❖ Regulating, conical, and spherical stem tips available
- ❖ Panel, bottom, and side mounting available
- ❖ Double lock-pins enable steady and durable fastening of the handle.
- ❖ Handle color options are available
- ❖ Every CIR-LOK bellows-sealed valve is factory tested with helium to a maximum leak rate of  $4 \times 10^{-9}$  std cm<sup>3</sup>/s at the seat, envelope and all seals

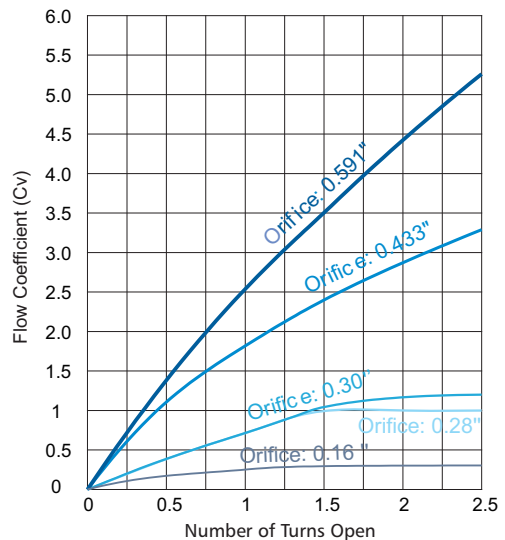
## Pressure vs. Temperature



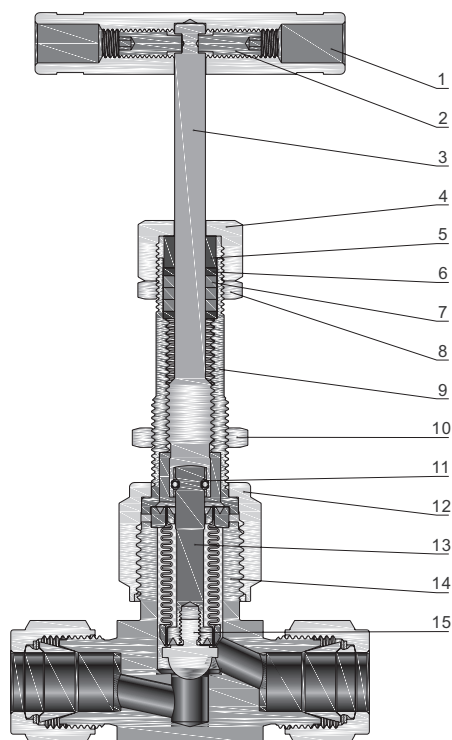
200°F(93°C) max. with PCTFE stem tip (soft tip).

## Flow Coefficient vs. Turns Open

### Regulating Stem



## Standard Materials of Construction



### Tip Types



Spherical



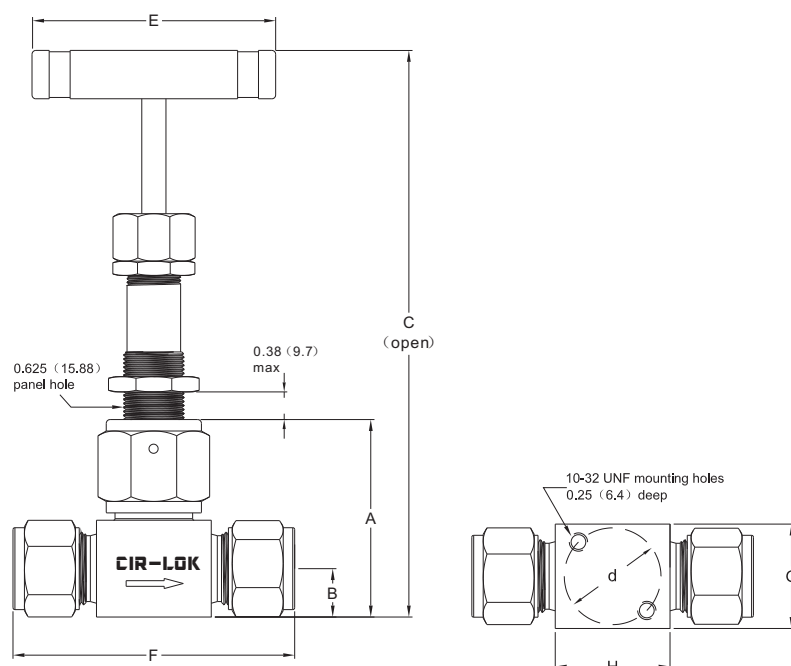
Conical



Regulating

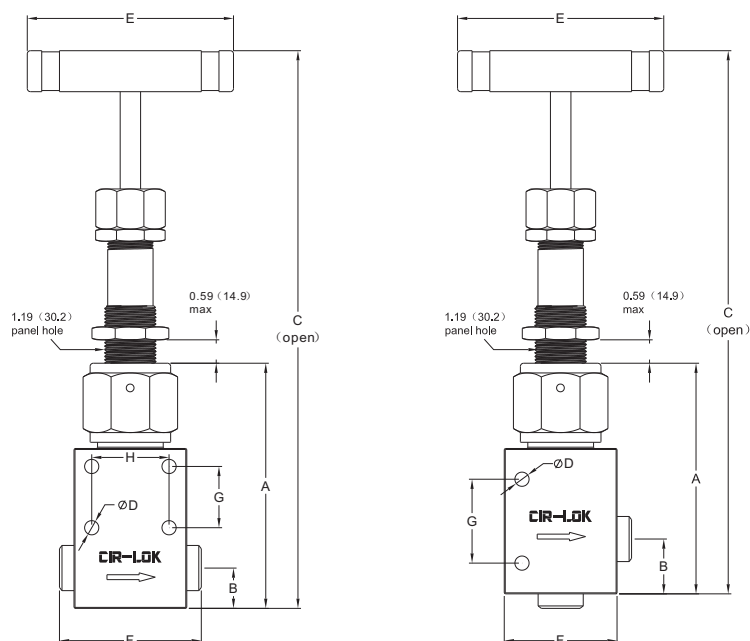
Component		Valve Body Material Grade/ASTM Specification
		316 S.S.
1	Handle	Green anodized aluminum 6061/B211
2	Screw	Alloy Steel/ANSI 18.3
3	Actuator	416 S.S./A582
4	Packing Nut	316 S.S./A276
5	Gland	316 S.S./A276
6	Spacer	316 S.S./A276
7	Packing	PTFE or Graphite
8	Nut	316 S.S./A276
9	Bonnet	316 S.S./A479
10	Nut	316 S.S./A479
11	Pin	Stainless steel
12	Bonnet Nut	316 S.S./A479
13	Stem	316 S.S./A479
	Weld Ring	316 S.S./A479
	Bellows	316L S.S.
14	Body	316 S.S./A182
15	Stem Tip	316 S.S./A479 (regulating)
		PCTFE/D1430 (conical)
		Weld Stellite (regulating or spherical)

## Dimensions



Basic Ordering Number	End Connections	Orifice in. (mm)	Cv	Dimensions, in. (mm)							
				A	B	C	E	F	G	H	Ød
BS2-F4-04-	1/4" CIR-LOK	0.16 (4.1)	0.36	2.69 (59.9)	0.56 (14.2)	6.48 (165)	2.50 (63.5)	2.46 (62.5)	1.00 (25.4)	1.06 (26.9)	1.00 (25.4)
BS2-F6-06-	3/8" CIR-LOK	0.26 (6.6)	0.85	1.61 (40.9)	0.50 (12.7)	6.59 (167)	2.50 (63.5)	3.09 (78.5)	1.13 (28.7)	1.57 (39.9)	1.13 (28.7)
BS2-F8-08-	1/2" CIR-LOK	0.30 (7.6)	1.20	1.61 (40.9)	0.50 (12.7)	6.59 (167)	2.50 (63.5)	3.30 (83.8)	1.13 (28.7)	1.57 (39.9)	1.13 (28.7)
BS2-M6-04-	6 mm CIR-LOK	0.16 (4.1)	0.36	1.49 (37.8)	0.56 (14.2)	6.48 (165)	2.50 (63.5)	2.46 (62.5)	1.00 (25.4)	1.06 (26.9)	1.00 (25.4)
BS2-M10-07-	10 mm CIR-LOK	0.28 (7.1)	1.00	1.61 (40.9)	0.50 (12.7)	6.59 (167)	2.50 (63.5)	3.11 (79.0)	1.13 (28.7)	1.57 (39.9)	1.13 (28.7)
BS2-M12-07-	12 mm CIR-LOK	0.28 (7.1)	1.00	1.61 (40.9)	0.50 (12.7)	6.59 (167)	2.50 (63.5)	3.30 (83.8)	1.13 (28.7)	1.57 (39.9)	1.13 (28.7)
BS2-FSW4-04-	1/4" FSW	0.16 (4.1)	0.36	1.49 (37.8)	0.56 (14.2)	6.48 (165)	2.50 (63.5)	1.68 (42.7)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
BS2-FSW6-06-	3/8" FSW	0.26 (6.6)	1.00	1.61 (40.9)	0.50 (12.7)	6.59 (167)	2.50 (63.5)	2.27 (57.7)	1.13 (28.7)	1.52 (38.6)	1.13 (28.7)
BS2-FSW8-08-	1/2" FSW	0.30 (7.6)	1.20	1.61 (40.9)	0.50 (12.7)	6.59 (167)	2.50 (63.5)	2.27 (57.7)	1.13 (28.7)	1.52 (38.6)	1.13 (28.7)
BS2-FBW4-04-	1/4" FBW	0.16 (4.1)	0.36	1.49 (37.8)	0.56 (14.2)	6.48 (165)	2.50 (63.5)	1.68 (42.7)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
BS2-FBW8-08-	1/2" FBW	0.30 (7.6)	1.20	1.61 (40.9)	0.50 (12.7)	6.59 (167)	2.50 (63.5)	2.27 (57.7)	1.13 (28.7)	1.52 (38.6)	1.13 (28.7)
BS2-FGFS4-04-	1/4" Female GFS	0.16 (4.1)	0.36	1.49 (37.8)	0.56 (14.2)	6.48 (165)	2.50 (63.5)	2.76 (70.1)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
BS2-FGFS8-08-	1/2" Female GFS	0.30 (7.6)	1.20	1.61 (40.9)	0.50 (12.7)	6.59 (167)	2.50 (63.5)	2.98 (75.7)	1.13 (28.7)	1.52 (38.6)	1.13 (28.7)
BS2-GFS4-04-	1/4" Male GFS	0.16 (4.1)	0.36	1.49 (37.8)	0.56 (14.2)	6.48 (165)	2.50 (63.5)	2.24 (56.9)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)
BS2-GFS8-08-	1/2" Male GFS	0.30 (7.6)	1.20	1.61 (40.9)	0.50 (12.7)	6.59 (167)	2.50 (63.5)	3.00 (76.2)	1.13 (28.7)	1.52 (38.6)	1.13 (28.7)

## Dimensions



Basic Ordering Number	End Connections	Orifice in. (mm)	CV	Dimensions, in. (mm)							
				A	B	C	E	F	G	H	ØD
BS2-FSW12-11-	3/4" FSW	0.433 (11.0)	3.10	4.88 (124)	1.00 (25.4)	11.60 (295)	4.00 (102)	2.44 (62.0)	1.25 (31.8)	1.46 (37.0)	0.27 (6.9)
BS2-FBW12-11-	3/4" FBW	0.433 (11.0)	3.10	4.88 (124)	1.00 (25.4)	11.60 (295)	4.00 (102)	2.44 (62.0)	1.25 (31.8)	1.46 (37.0)	0.27 (6.9)
BS2-FSW12-15-A-	3/4" FSW	0.591 (15.0)	5.30	4.88 (124)	1.44 (36.6)	11.60 (295)	4.00 (102)	2.49 (63.2)	1.60 (40.6)	—	0.26 (6.6)
BS2-FBW12-15-A-	3/4" FBW	0.591 (15.0)	5.30	4.88 (124)	1.44 (36.6)	11.60 (295)	4.00 (102)	2.49 (63.2)	1.60 (40.6)	—	0.26 (6.6)
BS2-FBW16-15-A-	1" FBW	0.591 (15.0)	5.30	4.88 (124)	1.44 (36.6)	11.60 (295)	4.00 (102)	2.49 (63.2)	1.60 (40.6)	—	0.26 (6.6)

# How to Order

**BS2** — **MBW10** — **M10** — **07** — **KN** — **BA** — **316**

Series	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Orifice Size	Tip Material	Tip Type	Handle	Flow Pattern	Body Material	
<b>BS2</b>	<b>FSW</b> Fractional Tube Socket Weld	<b>2</b> 1/8"	Same as inlet type and inlet size	0.16 in. (4.1 mm)	<b>04</b>	Standard Material	Spherical	Blue Aluminum Bar	Straight	<b>316</b> 316 S.S.	
		<b>4</b> 1/4"									0.26 in. (6.6 mm)
	<b>MSW</b> Metric Tube Socket Weld	<b>6</b> 3/8" or 6 mm	If outlet and inlet are the same, eliminate the outlet designator	0.28 in. (7.1 mm)	<b>07</b>	W Stellite	Conical	Red Aluminum Bar		<b>304</b> 304 S.S.	
		<b>8</b> 1/2" or 8 mm									0.3 in. (7.6 mm)
	<b>FBW</b> Fractional Tube Butt Weld	<b>10</b> 10 mm	0.433 in. (11 mm)	<b>11</b>			Stainless Steel			<b>A400</b> Alloy 400	
		<b>12</b> 3/4" or 12 mm									0.591 in. (15 mm)
	<b>MBW</b> Metric Tube Butt Weld	<b>14</b> 14 mm or M14	0.787 in. (20 mm)	<b>20</b>							
		<b>F</b> Fractional Tube Fitting									<b>16</b> 1" or 16 mm
	<b>UGF</b> Nut+Gasket+ Fractional Bulge Nipple	<b>18</b> 18 mm	11/4" or 20 mm or M20 x 1.5								
		<b>UGM</b> Nut+Gasket+ Metric Bulge Nipple									
	<b>FGFS</b> Female FR Fitting	<b>25</b> 25 mm									
		<b>GFS</b> Male FR Fitting									
			<b>28</b> 28 mm								