

Ball Valves

BV6 Series 3-piece High Pressure



- ❖ Maximum working pressure up to 3000 psig (207 bar)
- ❖ Working temperature from -20°F to 450°F (-28°C to 232°C)
- ❖ 2-way and 3-way pattern
- ❖ Orifice sizes: 4.8 mm to 38.1 mm
- ❖ Blowout-proof stem and coned-disc spring-loaded seat
- ❖ Variety of end connections

Features

On-off (2-way) valves

- ❖ Maximum working pressure up to 3000 psig (207 bar)
- ❖ Working temperature from -20°F to 450°F (-28°C to 232°C)
- ❖ Orifice sizes: 4.8 mm to 38.1 mm
- ❖ Blowout-proof stem
- ❖ Coned-disc spring-loaded seat
- ❖ Live-loaded chevron stem packing
- ❖ Pneumatic and electric actuators
- ❖ Variety of end connections
- ❖ Lever, oval, extended oval, and locking handles

Switching (3-Way) valves

- ❖ Maximum working pressure up to 1000 psig (68.9 bar)
- ❖ Working temperature from -20°F to 450°F (-28°C to 232°C)
- ❖ Orifice sizes: 4.8 mm to 50 mm
- ❖ One-piece center body
- ❖ Incorporate many of the features of the on-off (2-way) design

Fire series valves

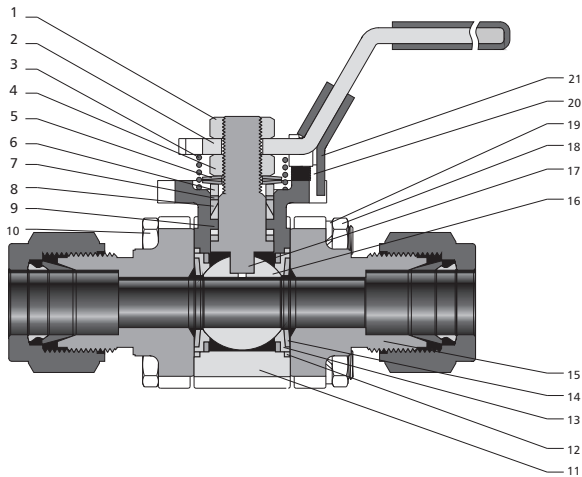
- ❖ Maximum working pressure up to 2200 psig (151 bar)
- ❖ Working temperature from -20°F to 450°F (-28°C to 232°C)
- ❖ Orifice sizes: 4.8 mm to 50 mm
- ❖ Meet fire test specification API Standard 607
- ❖ Live-loaded Grafoil stem packing
- ❖ Grafoil flange seals for body
- ❖ Seats with integral weir rings for fire conditions

Pressure vs. Temperature

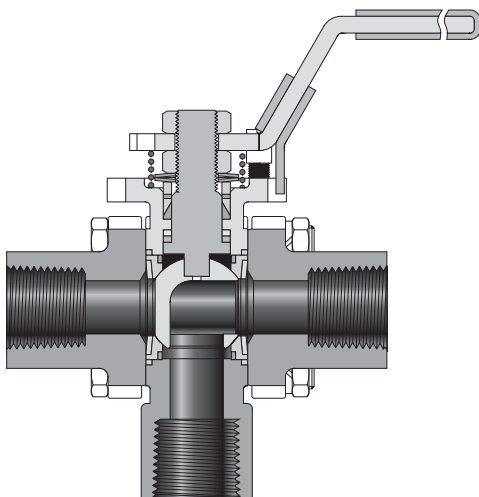
Pattern	On-Off	Switching	Fire
Body Material	CF3M, CF8M, CF3, CF8		
Seat Material	PEEK		
Temperature, °F (°C)	Working Pressure, psig(bar)		
-20 (-28) to 100 (37)	3000 (207)	1000 (68.9)	2200 (151)
150 (65)	2420 (166)	1000 (68.9)	1960 (135)
200 (93)	1870 (128)	1000 (68.9)	1760 (121)
250 (121)	1770 (121)	1000 (68.9)	1570 (108)
300 (148)	1600 (110)	1000 (68.9)	1370 (94.3)
350 (176)	1430 (98.5)	1000 (68.9)	1180 (81.3)
400 (204)	1260 (66.8)	1000 (68.9)	990 (68.2)
450 (232)	800 (55.1)	800 (55.1)	800 (55.1)

Standard Materials of Construction

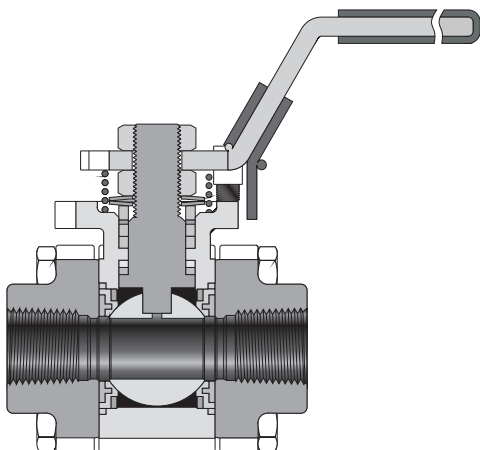
On-off (2-way) valves



Switching (3-Way) valves



Fire series valves

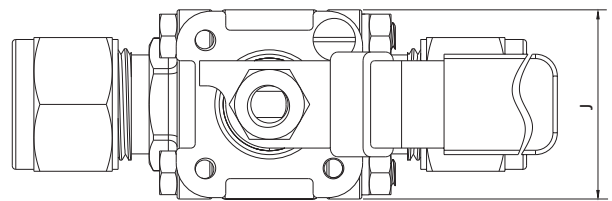
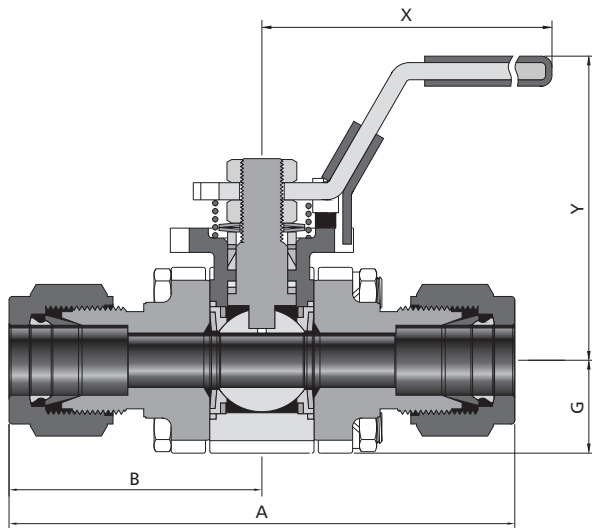


Item	Component	Valve Body Material
		CF3M, CF8M, CF3, CF8/A351
1	Stem Nut	Gr. 8M/A194
2	Handle	CF8/A351 (with vinyl sleeve)
3	Grounding Spring	304 SS/A313
4	Stem Nut	Gr. 8M/A194
5	Stem Spring	Strain-hardened 316 S.S./A240
6	Gland	PTFE-coated 316 S.S./B 783
7	Packing Support	PEEK or Grafoil
8	Top Packing	PTFE/D1710 or Grafoil
9	Bottom Packing	PTFE/D1710 or Grafoil
10	Body Bolt	Gr. B8M/A193
11	Body	CF3M, CF8M, CF3, CF8/A351
12	Flange Seal	PTFE/D1710 or Graphite
13	Seat	PEEK or PEEK with Grafoil weir ring
14	Coned-disc Spring	Strain-hardened 316 SS/A167 or 316 SS/A240
15	Flange	PTFE/D1710 or Graphite
16	Ball	316 S.S./A479
17	Stem	316 S.S./A479
18	Nut	Gr. 8M/A194
19	Gasket	304 S.S.
20	Stop Bolt	304 S.S./A479
21	Handle Lock	304 S.S./A240

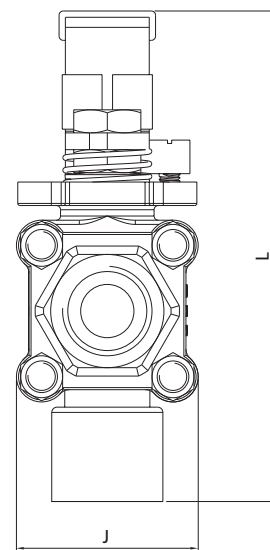
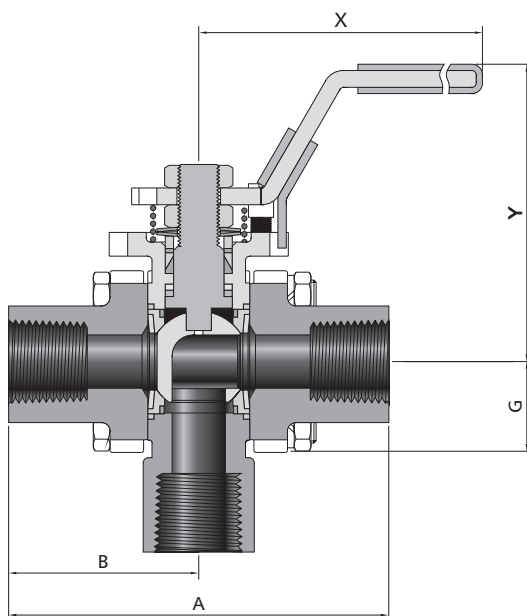
Dimensions

On-off (2-way) valves

Fire series valves



Switching (3-Way) valves



Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)														
				A	B	G	J	X	Y	L								
BV6-F4-05	1/4" CIR-LOK	0.188 (4.8)	1.2	3.17 (80.5)	1.59 (40.4)	0.68 (17.3)	1.35 (34.3)	2.37 (60.2)	1.66 (42.2)	3.35 (85.1)								
BV6-M6-05	6 mm CIR-LOK																	
BV6-M8-05	8 mm CIR-LOK																	
BV6-FSW4-05	1/4" FSW			2.16 (54.8)	1.08 (27.4)						2.08 (52.8)	1.04 (26.4)	—					
BV6-MSW6-05	6 mm MSW																	
BV6-PBW4-05	1/4 PBW																	
BV6-FNPT2-07	1/8 Female NPT	0.281 (7.1)	3.8	2.16 (54.9)	1.08 (27.4)	0.68 (17.3)	1.35 (34.6)	2.37 (60.2)	1.66 (42.2)	3.12 (79.2)								
BV6-FBT2-07	1/8 Female BSPT																	
BV6-FBP2-07	1/8 Female BSPP																	
BV6-FNPT4-07	1/4 Female NPT																	
BV6-FBT4-07	1/4 Female BSPT										2.31 (58.7)							
BV6-FBP4-07	1/4 Female BSPP																	
BV6-F5-07	5/16" CIR-LOK			3.17 (80.5)	1.59 (40.4)			3.20 (81.3)	1.60 (40.6)		2.37 (60.2)	1.66 (42.2)	4.37 (111)					
BV6-F6-07	3/8" CIR-LOK																	
BV6-M10-07	10 mm CIR-LOK																	
BV6-FSW6-07	3/8" FSW													2.16 (54.8)	1.08 (27.4)	2.08 (52.8)	1.04 (26.4)	—
BV6-PBW6-07	3/8 PBW																	
BV6-F8-10	1/2" CIR-LOK													0.406 (10.3)	7.5			
BV6-M12-10	12 mm CIR-LOK	0.375 (9.5)																
BV6-FSW8-10	1/2" FSW	0.411 (10.4)	2.70 (68.6)	1.34 (34.0)	0.89 (22.6)	1.78 (45.2)	4.50 (114.0)	2.35 (59.7)										
BV6-FNPT6-13	3/8 Female NPT	0.516 (13.1)	12	2.70 (68.6)					1.35 (34.3)	4.19 (106)								
BV6-FBT6-13	3/8 Female BSPT																	
BV6-FBP6-13	3/8 Female BSPP																	
BV6-FNPT8-13	1/2 Female NPT																	
BV6-FBT8-13	1/2 Female BSPT																	
BV6-FBP8-13	1/2 Female BSPP																	
BV6-F12-13	3/4" CIR-LOK		13.6	4.04 (102.6)					2.02 (51.3)	4.84 (123)								
BV6-M16-13	16 mm CIR-LOK																	
BV6-M18-13	18 mm CIR-LOK																	
BV6-FSW12-13	3/4" FSW			2.70 (68.6)					1.34 (34.0)		—							
BV6-PSW8-13	1/2 PSW																	
BV6-PBW8-13	1/2 PBW				15	2.69 (68.3)	1.34 (34.0)											

Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)												
				A	B	G	J	X	Y	L						
BV6-PBW12-13	3/4 PBW	0.516 (13.1)	13.6	2.69 (68.3)	1.34 (34.0)	0.89 (22.6)	1.78 (45.2)	4.50 (114.0)	2.35 (59.7)	only 3-way						
BV6-FNPT12-22	3/4 Female NPT	0.875 (22.2)	31.0	3.59 (91.2)	1.80 (45.7)	1.25 (31.8)	2.50 (63.5)	6.00 (152.0)	2.94 (74.7)	5.45 (138)						
BV6-FBT12-22	3/4 Female BSPT															
BV6-FBP12-22	3/4 Female BSPP															
BV6-FNPT16-22	1 Female NPT															
BV6-FBT16-22	1 Female BSPT		38.0													
BV6-FBP16-22	1 Female BSPP															
BV6-F16-22	1" CIR-LOK		40.0													
BV6-F20-22	1 1/4" CIR-LOK															
BV6-M25-22	25 mm CIR-LOK		40.0													
BV6-M28-22	28 mm CIR-LOK															
BV6-FSW16-22	1" FSW		38.0													
BV6-MSW25-22	25 mm MSW															
BV6-PSW12-22	3/4 PSW		36.0	3.59 (91.2)	1.80 (45.7)					1.25 (31.8)	2.51 (63.8)	6.00 (152.0)	4.03 (102.0)	—		
BV6-PSW16-22	1 PSW		42.0													
BV6-PBW12-22	3/4 PBW		36.0													
BV6-PBW16-22	1 PBW		40.0	3.46 (87.9)	1.73 (43.9)											
BV6-FSW20-29	1 1/4" FSW	1.125 (28.6)	80.0	4.39 (112.0)	2.19 (55.6)	1.53 (38.9)	3.06 (77.7)	9.14 (232.0)	4.03 (102.0)					—		
BV6-PBW20-29	1 1/4 PBW			4.57 (116.0)	2.28 (57.9)											
BV6-FNPT20-32	1 1/4 Female NPT	1.25 (31.8)	100.0	4.39 (112.0)	2.19 (55.6)	1.53 (38.9)	3.06 (77.7)	9.14 (232.0)	4.03 (102.0)					6.86 (174)		
BV6-FNPT24-32	1 1/2 Female NPT															
BV6-FSW24-32	1 1/2" FSW		90.0													
BV6-PSW20-32	1 1/4 PSW															
BV6-PSW24-32	1 1/2 PSW		100.0													
BV6-PBW24-32	1 1/2 PBW															
BV6-FNPT32-38	2 Female NPT	1.5 (38.1)	130.0	4.94 (125.4)	2.47 (62.7)	1.74 (44.2)	3.47 (88.1)	9.14 (232.0)	4.16 (106.0)					7.21 (183)		
BV6-FBT32-38	2 Female BSPT															
BV6-FSW32-38	2" FSW					1.70 (43.2)	3.47 (86.6)							1.74 (44.2)	3.47 (88.1)	—
BV6-PSW32-38	2 PSW															
BV6-PBW32-38	2 PBW					5.09 (129.0)	2.55 (64.8)									

How to Order

BV6 — **M12** — **FNPT8** — **P10** — **Y3** — **316**

Series	Port 1 Type	Port 1 Size	Port 2/3 Type	Port 2/3 Size	Seat Material	Orifice Size	Handle	Flow Pattern	Body Material
BV6	FNPT Female NPT	2 1/8 in.	Same as port 1 type and port 1 size If port 2/3 and port 1 are the same, eliminate the port 2/3 designator		P PEEK G PEEK with Grafoil weir ring	0.188 in. (4.8 mm) 0.281 in. (7.1 mm) 0.417 in. (10.6 mm) 0.5 in. (12.7 mm) 0.875 in. (22.2 mm) 1.125 in. (28.6 mm) 1.250 in. (31.75 mm) 1.5 in. (38.1 mm)	Blue R Red G Green B Black Y Yellow	Straight 3 3-way F Fire series	316L CF3M 316 CF8M 304L CF3 304L CF8
	NPT Male NPT	3 3 mm							
	FBT Female BSPT	4 1/4 in.							
	MBT Male BSPT	5 5/16 in.							
	FMS Female ISO 261	6 3/8 in. or 6 mm							
	MS Male ISO 261	8 1/2 in. or 8 mm							
	FBP Female BSPP	10 10 mm							
	MBP Male BSPP	12 3/4 in. or 12 mm							
	F Fractional Tube Fitting	14 14 mm							
	M Metric Tube Fitting	16 1 in. or 16 mm							
	MSW Metric Tube Socket Weld	18 18 mm							
	FSW Fractional Tube Socket Weld	20 1 1/4 in. or 20 mm							
	MBW Metric Tube Butt Weld	22 22 mm							
	FBW Fractional Tube Butt Weld	24 1 1/2 in.							
	PSW Pipe Socket Weld	25 25 mm							
	PBW Pipe Butt Weld	27 M27x 2 28 28 mm 32 2 in. or 32 mm							