

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

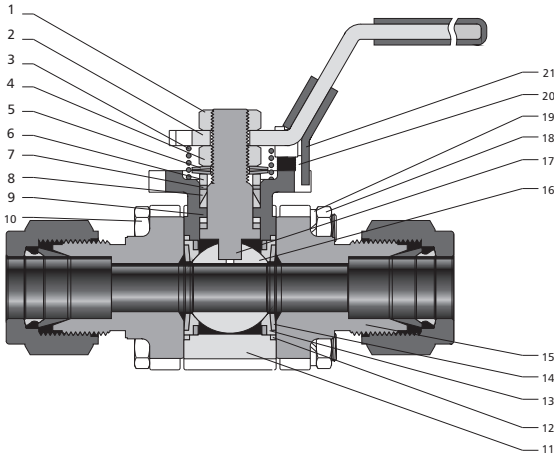
- ❖ Maximum working pressure up to 2200 psig (151 bar)
- ❖ Working temperature from -20°F to 450°F (-28°C to 232°C)
- ❖ Orifice sizes: 4.8 mm to 50 mm
- ❖ Meet fire test specification API Standard 607
- ❖ Live-loaded Grafoil stem packing
- ❖ Grafoil flange seals for body
- ❖ Seats with integral weir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

Pressure vs. Temperature

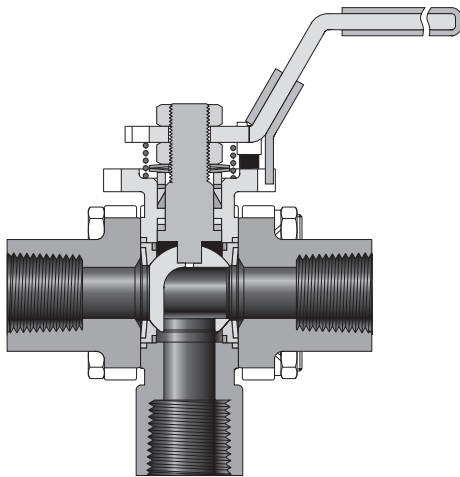
Pattern	On-Off	Switching	Fire
Body Material	CF3M, CF8M, CF3, CF8		
Seat Material	PEEK		
Temperature, °F (°C)	Working Pressure, psig(bar)		
-20 (-28) to 100 (37)	3000 (207)	1000 (68.9)	2200 (151)
150 (65)	2420 (166)	1000 (68.9)	1960 (135)
200 (93)	1870 (128)	1000 (68.9)	1760 (121)
250 (121)	1770 (121)	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

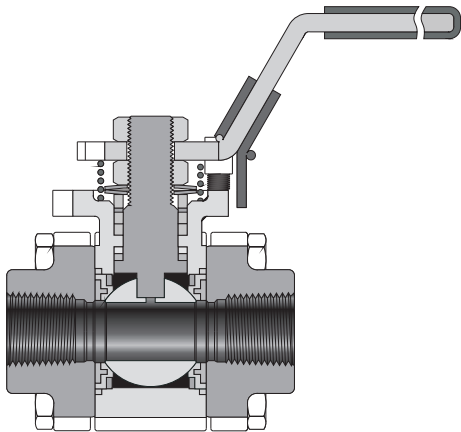
On-off (2-way) valves



Switching (3-Way) valves



Fire series valves

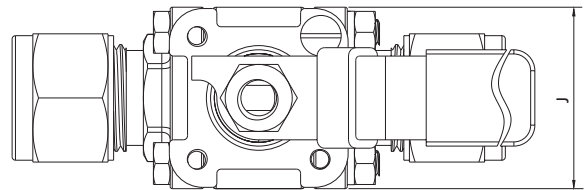
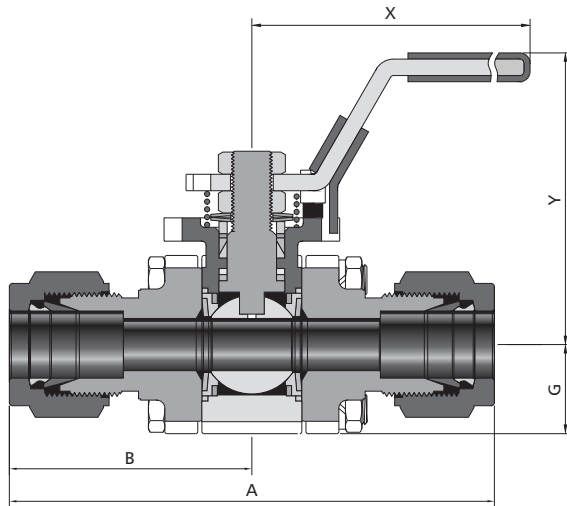


Item	Component	Valve Body Material
		CF3M, CF8M, CF3, CF8/A351
1	Stem Nut	Gr. 8M/A194
2	Handle	CF8/A351 (with vinyl sleeve)
3	Grounding Spring	304 SS/A313
4	Stem Nut	Gr. 8M/A194
5	Stem Spring	Strain-hardened 316 S.S./A240
6	Gland	PTFE-coated 316 S.S./B 783
7	Packing Support	PEEK or Grafoil
8	Top Packing	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

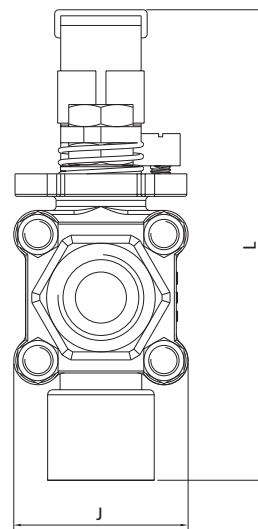
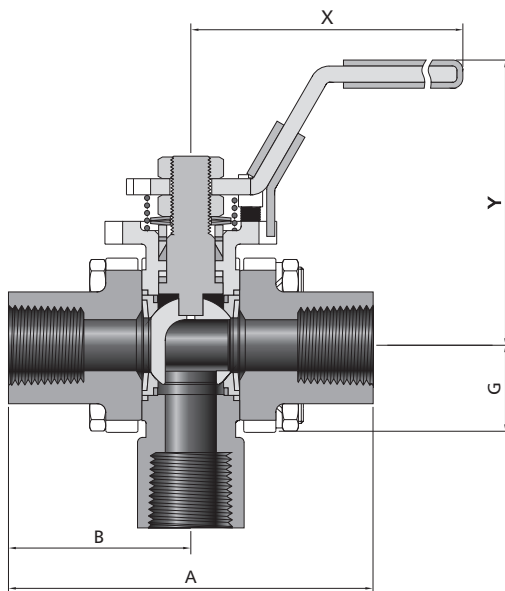
Dimensions

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)	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															
BV6-M12-10	12 mm CIR-LOK	0.406 (10.3)	7.5	4.04 (102.6)	2.02 (51.3)	0.89 (22.6)	1.78 (45.2)	4.50 (114.0)	2.35 (59.7)	4.48 (114)						
BV6-FSW8-10	1/2" FSW	0.375 (9.5)									2.70 (68.6)	1.34 (34.0)				
BV6-FNPT6-13	3/8 Female NPT	0.411 (10.4)														
BV6-FBT6-13	3/8 Female BSPT	0.516 (13.1)	12	2.70 (68.6)	1.35 (34.3)	0.89 (22.6)	1.78 (45.2)	4.50 (114.0)	2.35 (59.7)	4.19 (106)						
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															
BV6-M16-13	16 mm CIR-LOK		13.6	4.04 (102.6)	2.02 (51.3)					4.84 (123)						
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		15	2.69 (68.3)	1.34 (34.0)						—					
BV6-PBW8-13	1/2 PBW															

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		38.0	4.45 (113.0)	2.23 (56.6)																	
BV6-FBT16-22	1 Female BSPT																					
BV6-FBP16-22	1 Female BSPP																					
BV6-F16-22	1" CIR-LOK		40.0	5.36 (136.0)	2.68 (68.0)					1.25 (31.8)	2.50 (63.5)	6.00 (152.0)	2.94 (74.7)	5.91 (150)								
BV6-F20-22	1 1/4" CIR-LOK			6.34 (161.0)	3.17 (80.5)																	
BV6-M25-22	25 mm CIR-LOK		40.0	5.36 (136.0)	2.68 (68.0)																	
BV6-M28-22	28 mm CIR-LOK			6.14 (156.0)	3.07 (78.0)																	
BV6-FSW16-22	1" FSW			3.59 (91.2)	1.80 (45.7)																	
BV6-MSW25-22	25 mm MSW		38.0	3.59 (91.2)	1.80 (45.7)									1.25 (31.8)	2.51 (63.8)	6.00 (152.0)	—					
BV6-PSW12-22	3/4 PSW		36.0																			
BV6-PSW16-22	1 PSW		42.0																			
BV6-PBW12-22	3/4 PBW		36.0	3.46 (87.9)	1.73 (43.9)																	
BV6-PBW16-22	1 PBW	40.0																				
BV6-FSW20-29	1 1/4" FSW	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																					
BV6-PSW20-32	1 1/4 PSW		90.0	4.50 (114.3)	2.25 (57.2)					1.53 (38.9)	3.06 (77.7)	9.14 (232.0)	4.03 (102.0)									—
BV6-PSW24-32	1 1/2 PSW																					
BV6-PBW24-32	1 1/2 PBW		100.0	4.57 (116.0)	2.28 (57.9)																	
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)
BV6-FBT32-38	2 Female BSPT																					
BV6-FSW32-38	2" FSW		1.70 (43.2)	3.47 (86.6)	—																	
BV6-PSW32-38	2 PSW																					
BV6-PBW32-38	2 PBW		5.09 (129.0)	2.55 (64.8)	1.74 (44.2)					3.47 (88.1)												

How to Order

Series	Port 1 Type	Port 1 Size	Port 2/3 Port 2/3 Type 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	P PEEK	05 0.188 in. (4.8 mm)	Blue	Straight	316L CF3M
	NPT Male NPT	3 3 mm		G PEEK with Grafol weir ring	07 0.281 in. (7.1 mm)	R Red	3 3-way	316 CF8M
	FBT Female BSPT	4 1/4 in.			10 0.417 in. (10.6 mm)	G Green	F Fire series	304L CF3
	MBT Male BSPT	5 5/16 in.	If port 2/3 and port 1 are the same, eliminate the port 2/3 designator		13 0.5 in. (12.7 mm)	B Black		304L CF8
	FMS Female ISO 261	6 3/8 in. or 6 mm			22 0.875 in. (22.2 mm)	Y Yellow		
	MS Male ISO 261	8 1/2 in. or 8 mm			28 1.125 in. (28.6 mm)			
	FBP Female BSPP	10 10 mm			32 1.250 in. (31.75 mm)			
	MBP Male BSPP	12 3/4 in. or 12 mm			38 1.5 in. (38.1 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						

— 316

— Y3

— P10

— FNPT8

— M12