

Ball Valves

BV5 Series General Application



- ❖ 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 from 4.8 mm to 50 mm
- ❖ Pneumatic and electric actuation are available

Features

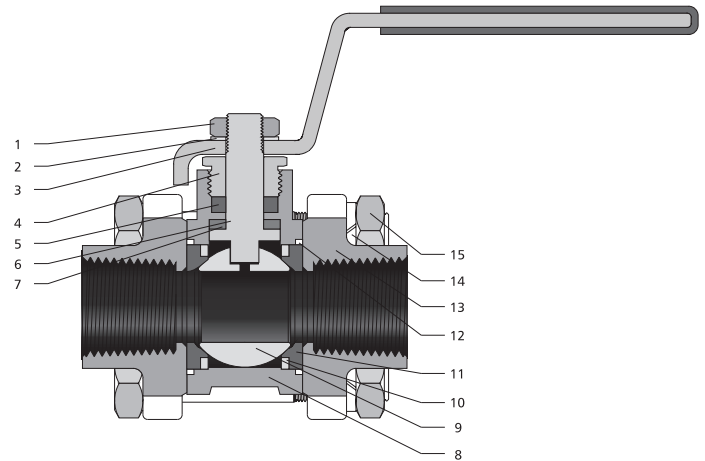
- ❖ Maximum working pressure: 1000 psig (68.9 bar)
- ❖ Working temperature from -20°F to 450°F (-28°C to 232°C)
- ❖ Orifice sizes: 4.8 mm to 50 mm
- ❖ Blowout-proof stem
- ❖ Pneumatic and electric actuation are available

Pressure vs. Temperature

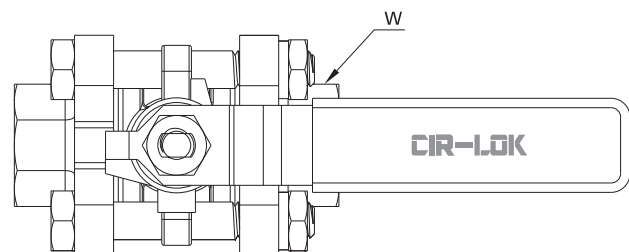
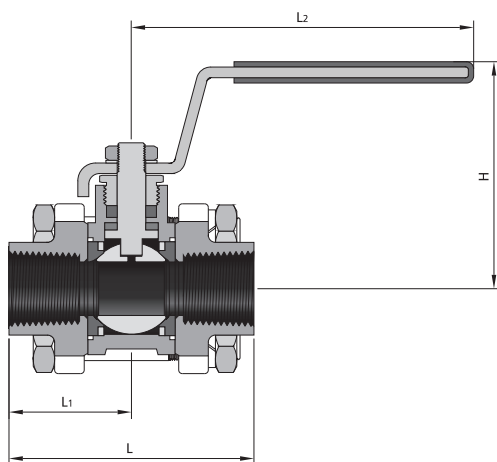
Body Material	CF3M	CF8M	CF3	CF8
Seat Material	PTFE			
Temperature, °F (°C)	Working Pressure, psig(bar)			
-20(-28) to 100 (37)	1000 (68.9)			
150 (65)	1000 (68.9)			
200 (93)	1000 (68.9)			
250 (121)	1000 (68.9)			
300 (148)	800 (55.1)			
350 (176)	560 (38.5)			
400 (204)	330 (22.7)			
450 (232)	100 (6.8)			

Standard Materials of Construction

Item	Component	Valve Body Material			
		CF8M/ A351	CF3M/ A351	CF8/ A351	CF3/ A351
1	Stem Nut	Gr. 8M/A194			
2	Gasket	304 S.S.			
3	Handle	304 S.S./A240 (with vinyl sleeve)			
4	Gland	316 S.S./A479 or 304 S.S./A479			
5	Stem Packing	Graphite			
6	Stem	316 S.S./A479			
7	Stem Bearing	Graphite			
8	Body	CF8M/A351	CF3M/A351	CF8/A351	CF3/A351
9	Body Bolt	Gr. B8M/A193			
10	Ball	316 S.S./A479			
11	Support Ring	316 S.S./A479			
12	Seat	PTFE/D1710			
13	Flange Seal	PTFE/D1710			
14	Flange	CF8M/A351	CF3M/A351	CF8/A351	CF3/A351
15	Gasket	304 S.S.			
16	Nut	Gr. 8M/A194			



Dimensions



Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)							
				L	L ₁	W	H	L ₂			
BV5-FNPT2-05	1/8 Female NPT	0.188 (4.8)	1.2	2.57 (65.2)	1.28 (32.6)	0.93 (23.5)	3.94 (100.0)	2.15 (54.7)			
BV5-FBT2-05	1/8 Female BSPT										
BV5-PBW4-05	1/4 PBW										
BV5-F4-05	1/4" CIR-LOK			3.17 (80.5)	1.59 (40.4)						
BV5-M6-05	6 mm CIR-LOK										
BV5-M8-05	8 mm CIR-LOK										
BV5-FNPT4-07	1/4 Female NPT	0.281 (7.1)	3.8	2.57 (65.2)	1.28 (32.6)	0.93 (23.5)	3.94 (100.0)	2.15 (54.7)			
BV5-FBT4-07	1/4 Female BSPT										
BV5-PSW4-07	1/4 PSW										
BV5-PBW6-07	3/8 PBW			3.17 (80.5)	1.59 (40.4)						
BV5-F6-07	3/8" CIR-LOK										
BV5-M10-07	10 mm CIR-LOK										
BV5-F8-10-	1/2" CIR-LOK	0.417 (10.6)	7.5	4.04 (103.0)	2.02 (51.3)	0.93 (23.5)	3.94 (100.0)	2.15 (54.7)			
BV5-M12-10-	12 mm CIR-LOK										
BV5-M14-10-	14 mm CIR-LOK										
BV5-FNPT6-13	3/8 Female NPT	0.50 (12.7)	11.3	2.57 (65.2)	1.28 (32.6)				0.88 (22.3)	3.94 (100.0)	2.26 (57.5)
BV5-FBT6-13	3/8 Female BSPT										
BV5-PSW6-13	3/8 PSW										
BV5-PBW8-13	1/2 PBW			4.06 (103.0)	2.03 (51.6)						
BV5-F10-13	5/8" CIR-LOK										
BV5-M16-13	16 mm CIR-LOK										
BV5-FNPT8-15	1/2 Female NPT	0.591 (15.0)	13.0	2.74 (69.5)	1.37 (34.8)	1.06 (27.0)					
BV5-FBT8-15	1/2 Female BSPT										
BV5-PSW8-15	1/2 PSW										
BV5-MBW22-15	22 mm MBW			4.06 (103.2)	2.03 (51.6)						
BV5-PSW12-15	3/4 PSW										
BV5-MSW18-15	18 mm MSW										
BV5-F12-15	3/4" CIR-LOK			4.06 (103.2)	2.03 (51.6)	1.06 (27.0)					
BV5-M18-15	18 mm CIR-LOK										
BV5-M20-15	20 mm CIR-LOK										
BV5-FNPT12-20	3/4 Female NPT	0.787 (20.0)	50.0	3.15 (80.0)	1.57 (40.0)		1.34 (34.0)	5.08 (129.0)			2.48 (63.0)
BV5-FBT12-20	3/4 Female BSPT										

Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)						
				A	B	W	X	Y		
BV5-PBW12-20-	3/4 PBW	0.787 (20.0)	50.0	3.15 (80.0)	1.57 (40.0)	1.34 (34.0)	5.08 (129.0)	2.48 (63.0)		
BV5-PSW12-20-	3/4 PSW									
BV5-PSW16-20-	1 PSW									
BV5-MBW25-20-	25 mm MBW			0.787 (20.0)	50.0	5.36 (136.0)	2.68 (68.1)	1.34 (34.0)	5.08 (129.0)	2.48 (63.0)
BV5-MSW25-20-	25 mm MSW									
BV5-F16-20-	1" CIR-LOK									
BV5-M22-20-	22 mm CIR-LOK									
BV5-M25-20-	25 mm CIR-LOK			0.787 (20.0)	50.0	5.36 (136.0)	2.68 (68.1)	1.34 (34.0)	5.08 (129.0)	2.48 (63.0)
BV5-M28-20-	28 mm CIR-LOK									
BV5-FNPT16-25-	1 Female NPT									
BV5-FBT16-25-	1 Female BSPT	1.00 (25.4)	93.0	3.54 (90.0)	1.77 (45.0)	1.63 (41.3)	6.14 (156.0)	2.97 (75.5)		
BV5-PSW16-25-	1 PSW									
BV5-PBW16-25-	1 PBW									
BV5-F20-25-	1 1/4" CIR-LOK			7.59 (193.0)	3.79 (96.3)					
BV5-FNPT20-32-	1 1/4 Female NPT									
BV5-FBT20-32-	1 1/4 Female BSPT	1.250 (31.75)	110.0	4.33 (110.0)	2.17 (55.0)	1.94 (49.2)	6.14 (156.0)	3.19 (81.0)		
BV5-PBW20-32-	1 1/4 PBW									
BV5-FNPT24-38-	1 1/2 Female NPT									
BV5-FBT24-38-	1 1/2 Female BSPT	1.50 (38.1)	130.0	4.72 (120.0)	2.36 (60.0)	2.24 (57.0)	7.19 (182.5)	3.70 (94.0)		
BV5-PBW24-38-	1 1/2 PBW									
BV5-FNPT32-50-	2 Female NPT									
BV5-FBT32-50-	2 Female BSPT	1.97 (50.0)	270.0	5.51 (140.0)	2.75 (70.0)	2.76 (70.0)	7.19 (182.5)	4.11 (104.5)		
BV5-PBW32-50-	2 PBW									

How to Order

BV5 — M12 — FNPT8 — T10 — Y1 — 316

Series	Port 1 Type	Port 1 Size	Port 2 Type	Port 2 Size	Seat Material	Orifice Size	Handle	Body Material
BV5	FNPT Female NPT	2 1/8 in.	Same as port 1 type and port 2 size		T PTFE	05 0.188 in. (4.8 mm)	Blue	316L CF3M
	NPT Male NPT	3 3 mm				07 0.281 in. (7.1 mm)	R1 Red	316 CF8M
	FBT Female BSPT	4 1/4 in.				10 0.417 in. (10.6 mm)	G1 Green	304L CF3
	MBT Male BSPT	5 5/16 in.	If port2 and port 1 are the same, eliminate the port 2 designator	13 0.5 in. (12.7 mm)		B1 Black	304 CF8	
	FMS Female ISO 261	6 3/8 in. or 6 mm		15 0.591 in. (15.0 mm)		Y1 Yellow		
	MS Male ISO 261	8 1/2 in. or 8 mm		20 0.787 in. (20.0 mm)		PSC		
	FBP Female BSPP	10 10 mm		25 1.00 in. (25.4 mm)		PSO		
	MBP Male BSPP	12 3/4 in. or 12 mm		32 1.250 in. (31.75 mm)		PD		
	F Fractional Tube Fitting	14 14 mm		38 1.5 in. (38.1 mm)		E		
	M Metric Tube Fitting	16 1 in. or 16 mm		50 2.00 in. (50.8 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						

❖ Pneumatic Actuators: **PSC** Spring return, normally closed / **PSO** Spring return, normally open / **PD** Double acting

❖ Electric Actuators: **E**