

Ball Valves

BV4 Series Bar Stock



- ❖ Maximum working pressure: 10000 psig (690 bar)
- ❖ Working temperature: -40°F to 450°F (-40°C to 232°C)
- ❖ 316 stainless steel and steel body material
- ❖ Orifice from 10.3 to 38.1mm
- ❖ Variety of end connections

Features

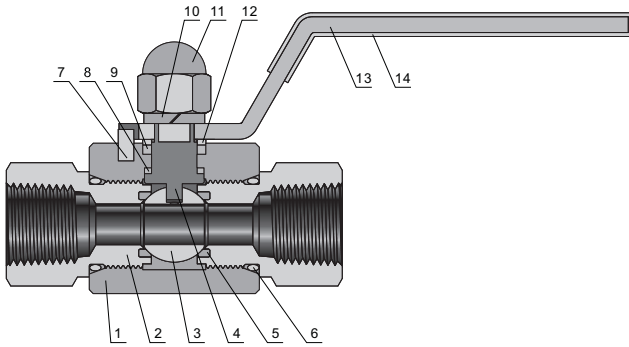
- ❖ Maximum working pressure: 10000 psig (690 bar)
- ❖ Working temperature: -40°F to 450°F (-40°C to 232°C)
- ❖ Bi-directional flow for 2-way valves
- ❖ Seat wear compensation by free floating ball
- ❖ Variety of end connections
- ❖ Blowout proof stem with self-sealing function
- ❖ Handle of different colors available for option
- ❖ Optional pneumatic and electric actuator
- ❖ All wetted components are compatible with hydrogen and compressed natural gas (CNG)

Technical Data

Seat Material	Temperature Range °F (°C)	Pressure Rating at 100°F (37°C) psig(bar)	
		Stainless Steel	Steel
Orifice: 0.39" (10.0 mm)			
PCTFE, PEEK	-40 to 450 (-40 to 232)	6000 to 10 000 (413 to 689) depending on end connection	6000(413)
Orifice: 0.5" (12.7 mm) to 0.75" (19.0 mm)			
PCTFE	-40 to 50 (-40 to 11)	6000(413)	5000(344)
PEEK	-40 to 450 (-40 to 232)	6000(413)	5000(344)
PTFE		1500(103)	
Orifice: 1" (25.4 mm) to 1.5" (38.1 mm)			
PCTFE	-40 to 50 (-40 to 11)	4500(310)	4500(310)
PEEK	-40 to 450 (-40 to 232)	4500(310)	4500(310)
PTFE		1500(103)	

Standard Materials of Construction

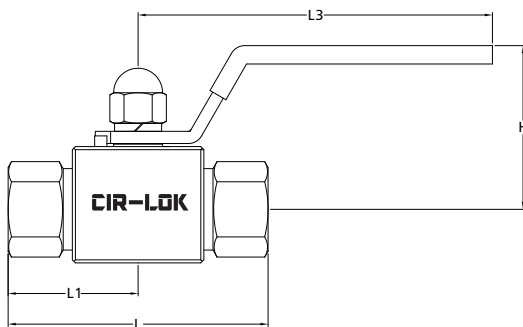
2-way Valves



Item	Component	Body Material	
		316 S.S.	Steel
1	Body	316 S.S./A479	Alloy 1020/A108
2	End Connector	316 S.S./A276	Alloy 1020/A108
3	Ball	316 S.S./A479	Alloy 1020/A108
4	Stem	316 S.S./A276	
5	Seat	PTFE or PCTFE or PEEK	
6	End Seal	Fluorocarbon FKM or Neoprene or Buna N	
7	Pin	Stainless Steel	
8	Stem Washer	PTFE/D1710	
9	Stem Packing	PTFE/D1710	
10	Spring Washer	Stainless Steel	
11	Nut	Stainless Steel	
12	Gland	316 S.S./A276	
13	Handle	Stainless Steel	
14	Handle sleeve	Vinyl	

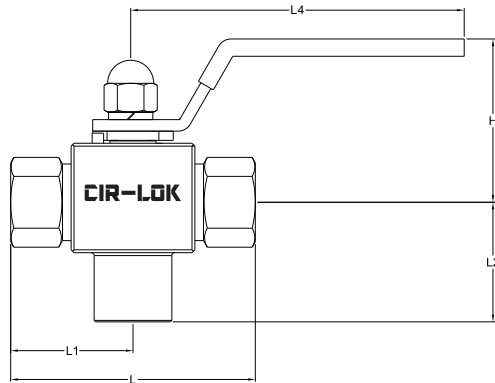
Dimensions

2-way Valves

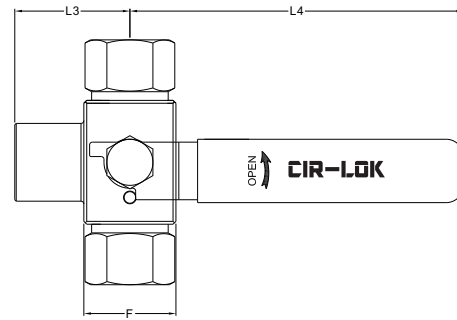


Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)								
				L	L1	L3	H	F				
BV4-M6-10-	6 mm CIR-LOK	0.406 (10.3)	1.2	3.54 (90.0)	1.77 (45.0)	5.12 (130.0)	1.73 (44.0)	1.30 (32.0)				
BV4-M8-10-	8 mm CIR-LOK			3.60 (91.6)	1.80 (45.8)							
BV4-M10-10-	10 mm CIR-LOK		3.7	3.70 (94.0)	1.85 (47.0)							
BV4-M12-10-	12 mm CIR-LOK		7.5	3.94 (100.0)	1.97 (50.0)							
BV4-M14-10-	14 mm CIR-LOK		1.2	3.60 (91.6)	1.80 (45.8)							
BV4-F4-10-	1/4" CIR-LOK											
BV4-F6-10-	3/8" CIR-LOK		3.7	3.72 (94.6)	1.86 (47.3)							
BV4-F8-10-	1/2" CIR-LOK		7.5	3.92 (99.6)	1.96 (49.8)							
BV4-FNPT4-10-	1/4 Female NPT			2.52 (64.0)	1.26 (32.0)							
BV4-FNPT6-10-	3/8 Female NPT			2.80 (71.0)	1.40 (35.5)							
BV4-FNPT8-10-	1/2 Female NPT		3.7	3.36 (85.4)	1.68 (42.7)							
BV4-NPT4-10-	1/4 Male NPT											
BV4-NPT6-10-	3/8 Male NPT		7.5	3.75 (95.2)	1.88 (47.6)							
BV4-NPT8-10-	1/2 Male NPT											
BV4-24C12-10-	24°O-ring (M18X1.5)		0.5 (12.7)	10.0	4.04 (102.6)				2.02 (51.3)	5.71 (145.0)	1.89 (48.0)	1.50 (38.0)
BV4-M16-13-	16 mm CIR-LOK				4.12 (104.6)				2.06 (52.3)			
BV4-M18-13-	18 mm CIR-LOK	4.43 (112.6)			2.22 (56.3)							
BV4-M20-13-	20 mm CIR-LOK											
BV4-M22-13-	22 mm CIR-LOK	4.36 (110.6)			2.18 (55.3)							
BV4-F10-13-	5/8" CIR-LOK											
BV4-F12-13-	3/4" CIR-LOK	3.54 (90.0)			1.77 (45.0)							
BV4-FNPT8-13-	1/2 Female NPT											
BV4-FNPT12-13-	3/4 Female NPT	4.14 (105.2)			2.07 (52.6)							
BV4-NPT12-13-	3/4 Male NPT											
BV4-24C18-13-	24°O-ring (M26X1.5)	0.71 (19.0)	19.0	4.87 (123.8)	2.43 (61.9)	6.30 (160.0)	2.08 (53.0)	1.96 (50.0)				
BV4-M20-19-	20 mm CIR-LOK			5.11 (129.8)	2.66 (64.9)							
BV4-M22-19-	22 mm CIR-LOK			19.0	4.59 (116.6)				2.29 (58.3)			
BV4-M25-19-	25 mm CIR-LOK											
BV4-F12-19-	3/4" CIR-LOK			30.0	5.11 (129.8)				2.66 (64.9)			
BV4-F16-19-	1" CIR-LOK											
BV4-FNPT12-19-	3/4 Female NPT			3.54 (90.0)	1.77 (45.0)							
BV4-FNPT16-19-	1 Female NPT			3.86 (98.2)	1.93 (49.1)							
BV4-NPT12-19-	3/4 Male NPT			19.0	4.54 (115.2)				2.27 (57.6)			
BV4-NPT16-19-	1 Male NPT			30.0	4.91 (124.8)				2.45 (62.4)			
BV4-24C22-19-	24°O-ring(M30X2)											
BV4-24C28-25-	24°O-ring(M36X2)	1 (25.4)	38.0	4.25 (108)	2.13 (54)	6.70 (170.0)	5.28 (134.0)	2.28 (58.0)				
BV4-24C35-32-	24°O-ring(M45X2)	1.25 (31.8)	90.0	4.41 (112)	2.21 (56)							
BV4-24C42-40-	24°O-ring(M52X2)	1.5 (38.1)	100.0	4.41 (112)	2.21 (56)							

3-way Valves



Vertical Pattern



Horizontal Pattern

Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)									
				L	L1	L2	L3	H	F				
BV4-M6-10-3-	6 mm CIR-LOK	0.406 (10.3)	1.2	3.54 (90.0)	1.77 (45.0)	2.00 (51.0)	5.12 (130.0)	1.73 (44.0)	1.30 (32.0)				
BV4-M8-10-3-	8 mm CIR-LOK			3.60 (91.6)	1.80 (45.8)	2.02 (51.3)							
BV4-M10-10-3-	10 mm CIR-LOK		3.7	3.70 (94.0)	1.85 (47.0)	2.07 (52.5)							
BV4-M12-10-3-	12 mm CIR-LOK		7.5	3.94 (100.0)	1.97 (50.0)	2.18 (55.5)							
BV4-M14-10-3-	14 mm CIR-LOK			3.60 (91.6)	1.80 (45.8)	2.01 (53.3)							
BV4-F4-10-3-	1/4" CIR-LOK		3.7	3.72 (94.6)	1.86 (47.3)	2.16 (54.8)							
BV4P-F6-10-3-	3/8" CIR-LOK		7.5	3.92 (99.6)	1.96 (49.8)	2.13 (54.0)							
BV4-FNPT4-10-3-	1/4 Female NPT			2.52 (64.0)	1.26 (32.0)	1.44 (36.5)							
BV4-FNPT6-10-3-	3/8 Female NPT		3.11 (79.0)	1.56 (38.5)	1.73 (44.0)								
BV4-FNPT8-10-3-	1/2 Female NPT		3.7	3.36 (85.4)	1.68 (42.7)	1.90 (48.2)							
BV4-NPT4-10-3-	1/4 Male NPT			3.75 (95.2)	1.88 (47.6)	2.09 (53.1)							
BV4-NPT6-10-3-	3/8 Male NPT		7.5	4.04 (102.6)	2.02 (51.3)	2.41 (61.3)							
BV4-NPT8-10-3-	1/2 Male NPT			4.12 (104.6)	2.06 (52.3)	2.45 (62.3)							
BV4-M16-13-3-	16 mm CIR-LOK		0.5 (12.7)	10.0	4.43 (112.6)	2.22 (56.3)				2.61 (66.3)	5.71 (145.0)	1.89 (48.0)	1.50 (38.0)
BV4-M18-13-3-	18 mm CIR-LOK				4.36 (110.6)	2.18 (55.3)				2.57 (65.3)			
BV4-M20-13-3-	20 mm CIR-LOK				3.54 (90.0)	1.77 (45.0)				1.95 (49.5)			
BV4-M22-13-3-	22 mm CIR-LOK	4.14 (105.2)			2.07 (52.6)	2.46 (62.6)							
BV4P-F10-13-3-	5/8" CIR-LOK	4.59 (116.6)			2.29 (58.3)	2.75 (69.8)							
BV4-F12-13-3-	3/4" CIR-LOK	5.11 (129.8)			2.66 (64.9)	3.00 (76.2)							
BV4-FNPT8-13-3-	1/2 Female NPT	4.59 (116.6)			2.29 (58.3)	2.75 (69.8)							
Bv4-FNPT12-13-3-	3/4 Female NPT	5.11 (129.8)			2.66 (64.9)	2.85 (72.4)							
BV4-NPT12-13-3-	3/4 Male NPT	3.54 (90.0)	1.77 (45.0)	2.22 (56.5)	6.30 (160.0)	2.08 (53.0)	1.96 (50.0)						
BV4-M20-19-3-	20 mm CIR-LOK	3.86 (98.2)	1.93 (49.1)	2.40 (60.8)									
BV4-M22-19-3-	22 mm CIR-LOK	4.54 (115.2)	2.27 (57.6)	2.72 (69.1)									
BV4-M25-19-3-	25 mm CIR-LOK	4.91 (124.8)	2.45 (62.4)	2.90 (73.9)									
Bv4-F12-19-3-	3/4" CIR-LOK	19.0	4.87 (123.8)	2.43 (61.9)				2.89 (73.4)					
BV4-F16-19-3-	1" CIR-LOK	30.0	5.11 (129.8)	2.66 (64.9)				3.00 (76.2)					
BV4-FNPT12-19-3-	3/4 Female NPT	19.0	4.59 (116.6)	2.29 (58.3)				2.75 (69.8)					
BV4-FNPT16-19-3-	1 Female NPT	30.0	5.11 (129.8)	2.66 (64.9)				2.85 (72.4)					
BV4-NPT12-19-3-	3/4 Male NPT	19.0	4.54 (115.2)	2.27 (57.6)	2.72 (69.1)								
BV4-NPT16-19-3-	1 Male NPT	30.0	4.91 (124.8)	2.45 (62.4)	2.90 (73.9)								

How to Order

BV4 — **M12** — **FNPT8** — **P10** — **Y3H** — **316**

Series	Port 1 Type	Port 1 Size	Port 2/3 Port 2/3 Type Size	Seat Material	Orifice Size	Handle	Flow Pattern	Body Material
BV4	FNPT	Female NPT	2 1/8 in.	P PEEK	0.406 in. (10.3 mm)	Blue	Straight	316 316 S.S.
	NPT	Male NPT	3 3 mm	K PCTFE	0.5 in. (12.7 mm)	R Red	3-way Vertical Pattern	316L 316L S.S.
	FBT	Female BSPT	4 1/4 in.	T PTFE	0.75 in. (19.0 mm)	G Green	3-way Horizontal Pattern	304 304 S.S.
	MBT	Male BSPT	5 5/16 in.	R RPTEE	1 in. (25.4 mm)	B Black		304L 304L S.S.
	FMS	Female ISO 261	6 3/8 in. or 6 mm		1.25 in. (31.8 mm)	Y Yellow		A400 Alloy 400
	MS	Male ISO 261	8 1/2 in. or 8 mm	Same as port 1 type and port 1 size				CS Steel
	FBP	Female BSPP	10 10 mm	If Port 2/3 and port 1 are the same, eliminate the port 2/3 designator				
	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					
	UGF	Nut + Gasket + Bulge Fractional Tube Nipple	28 28 mm					
	UGM	Nut + Gasket + Metric Tube Bulge Nipple	32 2 in. or 32 mm					
	24C	24°C Cone Connection						