

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

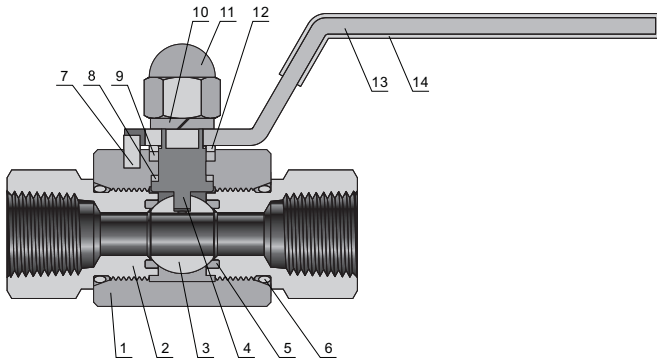
- ❖ Maximum working pressure: 10000 psig (690 bar)
- ❖ Working temperature: -40°F to 450°F (-40°C to 232°C)
- ❖ Bi-directional flow for 2-way valves
- ❖ Seat wear compensation by free floating ball
- ❖ Variety of end connections
- ❖ Blowout proof stem with self-sealing function
- ❖ Handle of different 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

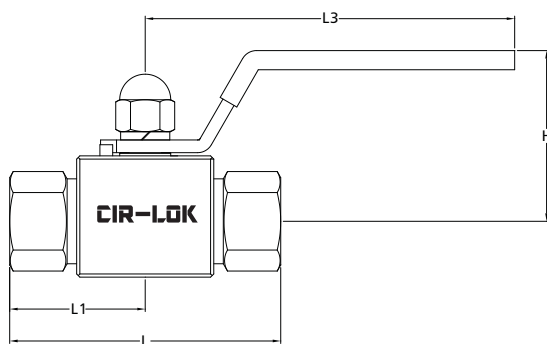
2-way Vavles



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	

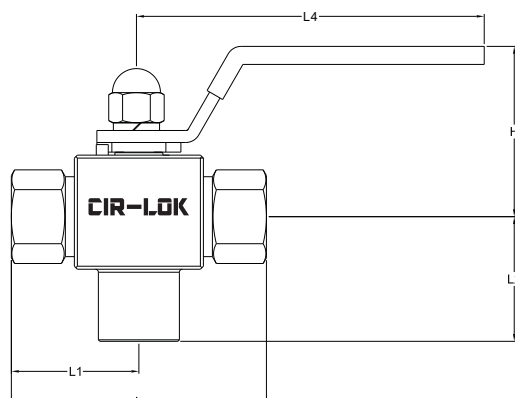
Dimensions

2-way Valves

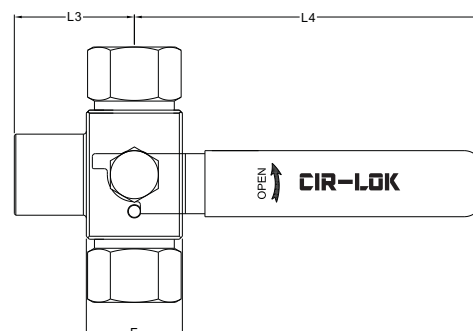


Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)					
				L	L1	L3	H	F	
BV4-M6-10-	6 mm CIR-LOK	0.406 (10.3)	1.2	3.54 (90.0)	1.77 (45.0)	5.12 (130.0)	1.73 (44.0)	1.30 (32.0)	
BV4-M8-10-	8 mm CIR-LOK			3.60 (91.6)	1.80 (45.8)				
BV4-M10-10-	10 mm CIR-LOK		3.7	3.70 (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			3.7	3.72 (94.6)				1.86 (47.3)
BV4-F6-10-	3/8" CIR-LOK		7.5		3.92 (99.6)				1.96 (49.8)
BV4-F8-10-	1/2" CIR-LOK			2.52 (64.0)	1.26 (32.0)				
BV4-FNPT4-10-	1/4 Female NPT			2.80 (71.0)	1.40 (35.5)				
BV4-FNPT6-10-	3/8 Female NPT		3.11 (79.0)	3.11 (79.0)	1.56 (39.5)				
BV4-FNPT8-10-	1/2 Female NPT			3.7	3.36 (85.4)				1.68 (42.7)
BV4-NPT4-10-	1/4 Male NPT		7.5		3.75 (95.2)				1.88 (47.6)
BV4-NPT6-10-	3/8 Male NPT			10.0	4.04 (102.6)				2.02 (51.3)
BV4-NPT8-10-	1/2 Male NPT		4.12 (104.6)		4.12 (104.6)				2.06 (52.3)
BV4-24C12-10-	24°O-ring (M18X1.5)			0.5 (12.7)	10.0				4.43 (112.6)
BV4-M16-13-	16 mm CIR-LOK	4.36 (110.6)	2.18 (55.3)						
BV4-M18-13-	18 mm CIR-LOK					3.54 (90.0)	1.77 (45.0)		
BV4-M20-13-	20 mm CIR-LOK	4.14 (105.2)	2.07 (52.6)						
BV4-M22-13-	22 mm CIR-LOK					19.0	4.87 (123.8)	2.43 (61.9)	
BV4-F10-13-	5/8" CIR-LOK	30.0	5.11 (129.8)						2.66 (64.9)
BV4-F12-13-	3/4" CIR-LOK					19.0	4.59 (116.6)	2.29 (58.3)	
BV4-FNPT8-13-	1/2 Female NPT	5.11 (129.8)	2.66 (64.9)						
BV4-FNPT12-13-	3/4 Female NPT					3.54 (90.0)	1.77 (45.0)		
BV4-NPT12-13-	3/4 Male NPT	3.86 (98.2)	1.93 (49.1)						
BV4-24C18-13-	24°O-ring (M26X1.5)			19.0	4.54 (115.2)	2.27 (57.6)			
BV4-M20-19-	20 mm CIR-LOK	30.0	4.91 (124.8)				2.45 (62.4)		
BV4-M22-19-	22 mm CIR-LOK			19.0	4.59 (116.6)	2.29 (58.3)			
BV4-M25-19-	25 mm CIR-LOK	5.11 (129.8)	2.66 (64.9)						
BV4-F12-19-	3/4" CIR-LOK			3.54 (90.0)	1.77 (45.0)				
BV4-F16-19-	1" CIR-LOK	3.86 (98.2)	1.93 (49.1)						
BV4-FNPT12-19-	3/4 Female NPT			19.0	4.54 (115.2)	2.27 (57.6)			
BV4-FNPT16-19-	1 Female NPT	30.0	4.91 (124.8)				2.45 (62.4)		
BV4-NPT12-19-	3/4 Male NPT			19.0	4.59 (116.6)	2.29 (58.3)			
BV4-NPT16-19-	1 Male NPT	5.11 (129.8)	2.66 (64.9)						
BV4-24C22-19-	24°O-ring(M30X2)			3.54 (90.0)	1.77 (45.0)				
BV4-24C28-25-	24°O-ring(M36X2)	3.86 (98.2)	1.93 (49.1)						
BV4-24C35-32-	24°O-ring(M45X2)			19.0	4.54 (115.2)	2.27 (57.6)			
BV4-24C42-40-	24°O-ring(M52X2)	30.0	4.91 (124.8)				2.45 (62.4)		
				1 (25.4)	38.0	4.25 (108)		2.13 (54)	6.70 (170.0)
		1.25 (31.8)	90.0	4.41 (112)	2.21 (56)				
		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		1.2	3.60 (91.6)	1.80 (45.8)	2.01 (53.3)							
BV4-F4-10-3-	1/4" CIR-LOK			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)							
BV4P-F8-10-3-	1/2" CIR-LOK			2.52 (64.0)	1.26 (32.0)	1.44 (36.5)							
BV4-FNPT4-10-3-	1/4 Female NPT		3.7	2.80 (71.0)	1.40 (35.5)	1.57 (40.0)							
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		7.5	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		0.5 (12.7)	10.0	4.04 (102.6)	2.02 (51.3)				2.41 (61.3)	5.71 (145.0)	1.89 (48.0)	1.50 (38.0)
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	4.36 (110.6)			2.18 (55.3)	2.57 (65.3)							
BV4-M18-13-3-	18 mm CIR-LOK						1.95 (49.5)	2.16 (55.0)					
BV4-M20-13-3-	20 mm CIR-LOK	4.14 (105.2)			2.07 (52.6)	2.46 (62.6)							
BV4-M22-13-3-	22 mm CIR-LOK						3.54 (90.0)	1.77 (45.0)					
BV4P-F10-13-3-	5/8" CIR-LOK	19.0			4.87 (123.8)	2.43 (61.9)			2.89 (73.4)				
BV4-F12-13-3-	3/4" CIR-LOK		30.0	5.11 (129.8)			2.66 (64.9)	3.00 (76.2)					
BV4-FNPT8-13-3-	1/2 Female NPT	19.0			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)	6.30 (160.0)		2.08 (53.0)	1.96 (50.0)		
BV4-FNPT12-13-3-	3/4 Male NPT	30.0			3.54 (90.0)	1.77 (45.0)			2.22 (56.5)				
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	19.0			4.54 (115.2)	2.27 (57.6)		2.72 (69.1)					
BV4-M25-19-3-	25 mm CIR-LOK		30.0	4.91 (124.8)			2.45 (62.4)		2.90 (73.9)				
Bv4-F12-19-3-	3/4" CIR-LOK	19.0			4.54 (115.2)	2.27 (57.6)		2.72 (69.1)					
BV4-F16-19-3-	1" CIR-LOK		30.0	4.91 (124.8)			2.45 (62.4)		2.90 (73.9)				
BV4-FNPT12-19-3-	3/4 Female NPT	19.0			4.54 (115.2)	2.27 (57.6)		2.72 (69.1)					
BV4-FNPT16-19-3-	1 Female NPT		30.0	4.91 (124.8)			2.45 (62.4)		2.90 (73.9)				
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	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	0.406in. (10.3 mm)	Blue	Straight	316 316 S.S.
	NPT	Male NPT		K PCTFE	10	R Red	3-way Vertical Pattern	316L 316L S.S.
	FBT	Female BSPT		T PTFE	13	G Green	3H Horizontal Pattern	304 304 S.S.
	MBT	Male BSPT		R RPTFE	19	B Black		304L 304L S.S.
	FMS	Female ISO 261			25	Y Yellow		A400 Alloy 400
	MS	Male ISO 261			32			CS Steel
	FBP	Female BSPP			40			
	MBP	Male BSPP						
	F	Fractional Tube Fitting						
	M	Metric Tube Fitting						
	MSW	Metric Tube Socket Weld						
	FSW	Fractional Tube Socket Weld						
	MBW	Metric Tube Butt Weld						
	FBW	Fractional Tube Butt Weld						
	PSW	Pipe Socket Weld						
	PBW	Pipe Butt Weld						
	UGF	Nut + Gasket + Bulge Fractional Tube Nipple						
	UGM	Nut + Gasket + Metric Tube Bulge Nipple						
	24C	24°C Cone Connection						