

Bar Stock Ball Valves

BV4 Series



- ❖ Maximum working pressure: 6000 psig (413 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

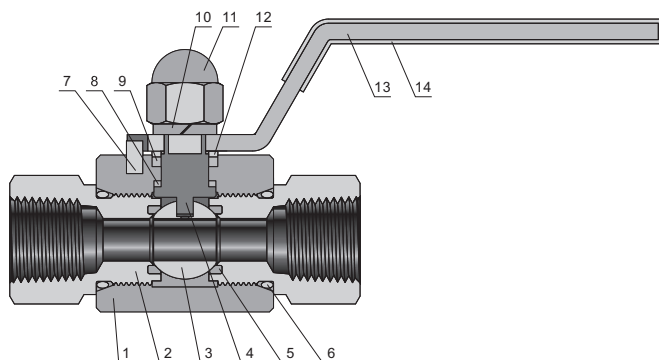
- ❖ Maximum working pressure: 6000 psig (413 bar)
- ❖ Working temperature: -40°F to 450°F (-40°C to 232°C)
- ❖ Bi-directional flow for 2-way valves
- ❖ Seat wear compensation by free floating ball
- ❖ Variety of end connections
- ❖ Blowout proof stem with self-sealing function
- ❖ Handle of different 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(413)	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

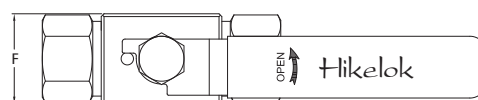
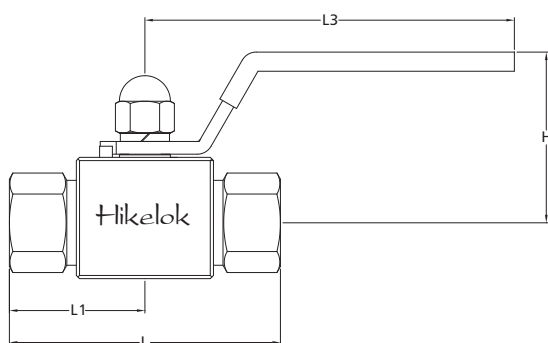
2-way Vavles



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	

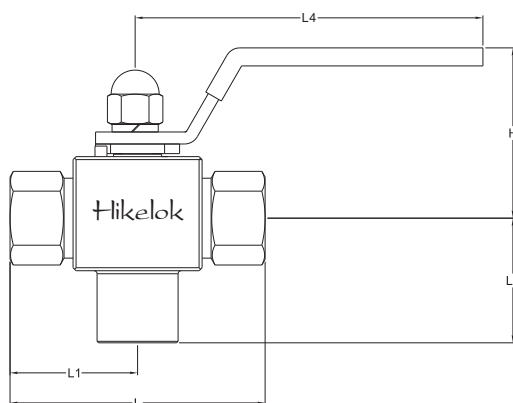
Dimensions

2-way Valves

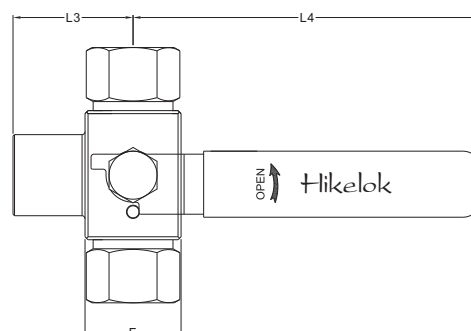


Basic Ordering Number	Connection Type and Size	Orifice in. (mm)	Cv	Dimension, in. (mm)				
				L	L1	L3	H	F
BV4-M6-10-	6 mm Hikelok	0.406 (10.3)	1.2	3.54 (90.0)	1.77 (45.0)	5.12 (130.0)	1.73 (44.0)	1.30 (32.0)
BV4-M8-10-	8 mm Hikelok			3.60 (91.6)	1.80 (45.8)			
BV4-M10-10-	10 mm Hikelok		3.7	3.70 (94.0)	1.85 (47.0)			
BV4-M12-10-	12 mm Hikelok		7.5	3.94 (100.0)	1.97 (50.0)			
BV4-M14-10-	14 mm Hikelok							
BV4-F4-10-	1/4" Hikelok		1.2	3.60 (91.6)	1.80 (45.8)			
BV4-F6-10-	3/8" Hikelok		3.7	3.72 (94.6)	1.86 (47.3)			
BV4-F8-10-	1/2" Hikelok		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			3.11 (79.0)	1.56 (39.5)			
BV4-NPT4-10-	1/4 Male NPT		3.7	3.36 (85.4)	1.68 (42.7)			
BV4-NPT6-10-	3/8 Male NPT		7.5					
BV4-NPT8-10-	1/2 Male NPT			3.75 (95.2)	1.88 (47.6)			
BV4-24C12-10-	24°O-ring (M18X1.5)							
BV4-M16-13-	16 mm Hikelok	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-M18-13-	18 mm Hikelok			4.12 (104.6)	2.06 (52.3)			
BV4-M20-13-	20 mm Hikelok			4.43 (112.6)	2.22 (56.3)			
BV4-M22-13-	22 mm Hikelok							
BV4-F10-13-	5/8" Hikelok			4.36 (110.6)	2.18 (55.3)			
BV4-F12-13-	3/4" Hikelok							
BV4-FNPT8-13-	1/2 Female NPT			3.54 (90.0)	1.77 (45.0)			
BV4-FNPT12-13-	3/4 Female NPT							
BV4-NPT12-13-	3/4 Male NPT			4.14 (105.2)	2.07 (52.6)			
BV4-24C18-13-	24°O-ring (M26X1.5)							
BV4-M20-19-	20 mm Hikelok	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-M22-19-	22 mm Hikelok		30.0	5.11 (129.8)	2.66 (64.9)			
BV4-M25-19-	25 mm Hikelok		19.0	4.59 (116.6)	2.29 (58.3)			
BV4-F12-19-	3/4" Hikelok		30.0	5.11 (129.8)	2.66 (64.9)			
BV4-F16-19-	1" Hikelok			3.54 (90.0)	1.77 (45.0)			
BV4-FNPT12-19-	3/4 Female NPT			3.86 (98.2)	1.93 (49.1)			
BV4-FNPT16-19-	1 Female NPT		19.0	4.54 (115.2)	2.27 (57.6)			
BV4-NPT12-19-	3/4 Male NPT		30.0					
BV4-NPT16-19-	1 Male NPT			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	Cv	Dimension, in. (mm)					
		in. (mm)		L	L1	L2	L3	H	F
BV4-M6-10-3-	6 mm Hikelok	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 Hikelok			3.60 (91.6)	1.80 (45.8)	2.02 (51.3)			
BV4-M10-10-3-	10 mm Hikelok		3.7	3.70 (94.0)	1.85 (47.0)	2.07 (52.5)			
BV4-M12-10-3-	12 mm Hikelok		7.5	3.94 (100.0)	1.97 (50.0)	2.18 (55.5)			
BV4-M14-10-3-	14 mm Hikelok								
BV4-F4-10-3-	1/4" Hikelok		1.2	3.60 (91.6)	1.80 (45.8)	2.01 (51.3)			
BV4P-F6-10-3-	3/8" Hikelok		3.7	3.72 (94.6)	1.86 (47.3)	2.16 (54.8)			
BV4P-F8-10-3-	1/2" Hikelok			3.92 (99.6)	1.96 (49.8)	2.13 (54.0)			
BV4-FNPT4-10-3-	1/4 Female NPT		7.5	2.52 (64.0)	1.26 (32.0)	1.44 (36.5)			
BV4-FNPT6-10-3-	3/8 Female NPT			2.80 (71.0)	1.40 (35.5)	1.57 (40.0)			
BV4-FNPT8-10-3-	1/2 Female NPT			3.11 (79.0)	1.56 (38.5)	1.73 (44.0)			
BV4-NPT4-10-3-	1/4 Male NPT		3.7	3.36 (85.4)	1.68 (42.7)	1.90 (48.2)			
BV4-NPT6-10-3-	3/8 Male NPT		7.5	3.75 (95.2)	1.88 (47.6)	2.09 (53.1)			
BV4-NPT8-10-3-	1/2 Male NPT								
BV4-M16-13-3-	16 mm Hikelok	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-M18-13-3-	18 mm Hikelok			4.12 (104.6)	2.06 (52.3)	2.45 (62.3)			
BV4-M20-13-3-	20 mm Hikelok			4.43 (112.6)	2.22 (56.3)	2.61 (66.3)			
BV4-M22-13-3-	22 mm Hikelok								
BV4P-F10-13-3-	5/8" Hikelok			4.36 (110.6)	2.18 (55.3)	2.57 (65.3)			
BV4-F12-13-3-	3/4" Hikelok								
BV4-FNPT8-13-3-	1/2 Female NPT			3.54 (90.0)	1.77 (45.0)	1.95 (49.5)			
Bv4-FNPT12-13-3-	3/4 Female NPT					2.16 (55.0)			
BV4-NPT12-13-3-	3/4 Male NPT			4.14 (105.2)	2.07 (52.6)	2.46 (62.6)			
BV4-M20-19-3-	20 mm Hikelok	0.71 (19.0)	19.0	4.87 (123.8)	2.43 (61.9)	2.89 (73.4)	6.30 (160.0)	2.08 (53.0)	1.96 (50.0)
BV4-M22-19-3-	22 mm Hikelok		30.0	5.11 (129.8)	2.66 (64.9)	3.00 (76.2)			
BV4-M25-19-3-	25 mm Hikelok								
Bv4-F12-19-3-	3/4" Hikelok		19.0	4.59 (116.6)	2.29 (58.3)	2.75 (69.8)			
BV4-F16-19-3-	1" Hikelok			5.11 (129.8)	2.66 (64.9)	2.85 (72.4)			
BV4-FNPT12-19-3-	3/4 Female NPT		30.0	3.54 (90.0)	1.77 (45.0)	2.22 (56.5)			
BV4-FNPT16-19-3-	1 Female NPT			3.86 (98.2)	1.93 (49.1)	2.40 (60.8)			
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)			

❖ If working pressure up to 10,000 psi, please refer to BV41 series.

How to Order

BV4 — **M12** — **FNPT8** — **P10** — **3** — **316**

Series	Port 1 Type	Port 1 Size	Port 2/3 Port Type Size	Seat Material	Orifice Size	Handle	Flow Pattern	Body Material
BV4	FNPT Female NPT	2 1/8 in.	Same as port 1 type and port 1 size	P PEEK	10 0.406 in. (10.3 mm)	Blue	Straight	316 316 S.S.
	NPT Male NPT	3 3 mm		K PCTFE	13 0.5 in. (12.7 mm)	R1 Red	3-way Vertical Pattern	316L 316L S.S.
	FBT Female BSPT	4 1/4 in.	If Port 2/3 and port1 are the same, eliminate the port 2/3 designator	T PTFE	19 0.75 in. (19.0 mm)	G1 Green	3-way Horizontal Pattern	304 304 S.S.
	MBT Male BSPT	5 5/16 in.		R RPTFE	25 1 in. (25.4 mm)	B1 Black		304L 304L S.S.
	FMS Female ISO 261	6 3/8 in. or 6 mm			32 1.25 in. (31.8 mm)	Y1 Yellow		A400 Alloy 400
	MS Male ISO 261	8 1/2 in. or 8 mm			40 1.5 in. (38.1 mm)	PSC		CS Steel
	FBP Female BSPP	10 10 mm				PSO		
	MBP Male BSPP	12 3/4 in. or 12 mm				PD		
	F Fractional Tube Fitting	14 14 mm				E		
	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							

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

❖ Electric Actuators: **E**