

Trunnion Ball Valves

BV7 Series



- ❖ Maximum working pressure up to 6000 psig (413 bar)
- ❖ Working temperature from -65°F to 450°F (-54°C to 232°C)
- ❖ 2-way and 3-way flow pattern
- ❖ Spring-loaded seats
- ❖ Field repairable with seal kits
- ❖ 316 stainless steel and alloy 400 body material

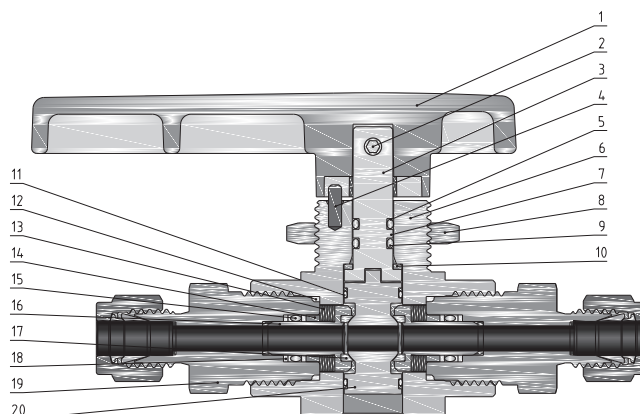
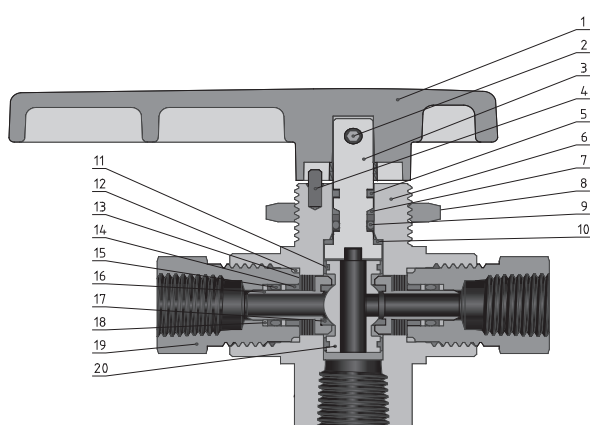
Features

- ❖ Maximum working pressure up to 6000 psig (413 bar)
- ❖ Working temperature from -65°F to 450°F (-54°C to 232°C)
- ❖ 2-way and 3-way pattern
- ❖ Spring-loaded seats reduce seat wear from pressure surges
- ❖ Field repairable with seal kits
- ❖ Trunnion-style ball and low operating torque
- ❖ Bottom-loaded stem prevents stem blowout
- ❖ Panel mountable
- ❖ 316 stainless steel, brass and alloy body material
- ❖ Variety of end connections
- ❖ Color coded handles

Pressure vs. Temperature

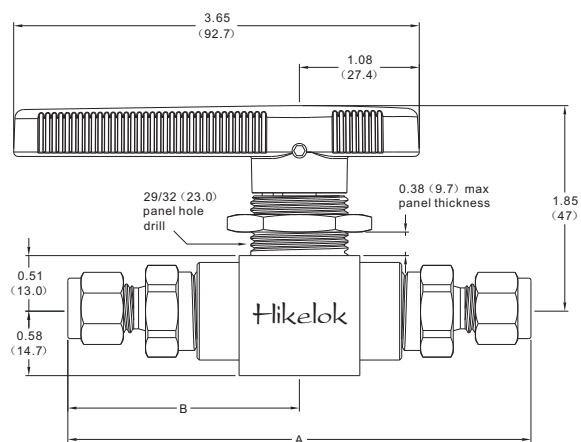
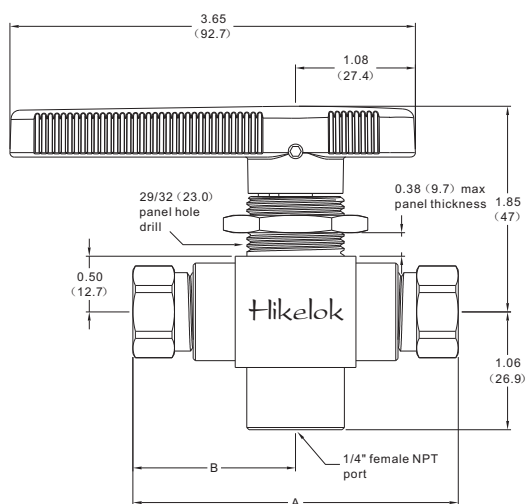
Body Material	316 S.S.			Alloy 400		
Seat Material	PEEK	PCTFE	PTFE	PEEK	PCTFE	PTFE
Temperature, °F (°C)	Working Pressure, psig (bar)					
-65 (-54) to 100 (37)	6000 (413)	6000 (413)	1500 (103)	5000 (344)	5000 (344)	1500 (103)
200 (93)	5000 (344)	2000 (137)	750 (151)	4390 (302)	2000 (137)	750 (151)
250 (121)	4100 (282)	1000 (68.9)	625 (43.0)	4100 (282)	1000 (68.9)	625 (43.0)
300 (148)	3200 (220)	—	500 (34.4)	3200 (220)	—	500 (34.4)
350 (176)	2300 (158)	—	375 (25.8)	2300 (158)	—	375 (25.8)
400 (204)	1400 (96.5)	—	250 (17.2)	1400 (96.5)	—	250 (17.2)
450 (232)	500 (34.4)	—	125 (8.6)	500 (34.4)	—	125 (8.6)

Standard Materials of Construction



Item	Component	Valve Body Material			
		316 Stainless Steel		Alloy 400	
		2-way	3-way	2-way	3-way
		Material Grade/ASTM Specification			
1	Handle	Nylon or aluminium			
2	Set Screw	S17400 S.S.			
3	Stem	316 S.S./A276		Alloy R-405/B164	
4	Pin	Stainless Steel			
5	Primary Stem Backup Ring	PTFE/D1710			
6	Body	316 S.S./A479		316 S.S./A182 Alloy 400/B164	
7	Secondary Stem Backup Ring	—	PEEK	—	PEEK
8	Panel Nut	Stainless Steel			
9	Stem O-ring	—	Fluorocarbon FKM	—	Fluorocarbon FKM
10	Stem Washer	Reinforced PTFE	PEEK	Reinforced PTFE	PEEK
11	Trunnion Bearing	Fluorocarbon FKM	PEEK	Fluorocarbon FKM	PEEK
12	End Connector Seal	PTFE/D1710			
13	Seat Spring	Alloy X-750/AMS 5542			
14	Seat Carrier Guide	316 S.S./A276		Alloy R-405/B164	
15	Seat Retainer O-ring	Fluorocarbon FKM			
16	Seat Retainer	316 S.S./A276		Alloy R-405/B164	
17	Seat	PTFE or PEEK or PCTFE			
18	Seat Retainer Guide	Reinforced PTFE			
19	End Connector	316 S.S./A479		Alloy R-405/B164	
20	Ball	316 S.S./A276		S21800/A276 Alloy R-405/B164	

Dimensions



2-way Valve

Basic Ordering Number	Connection Size	Orifice Size in. (mm)	Cv	Dimension, in. (mm)	
				A	B
BV7-FNPT2-05-	1/8 Female NPT	0.187 (4.75)	1.2	2.94 (74.7)	1.47 (37.3)
BV7-FNPT4-05-	1/4 Female NPT				
BV7-FNPT8-05-	1/2 Female NPT			4.25 (108.0)	2.13 (54.1)
BV7-F4-05-	1/4" Hikelok			4.14 (105.2)	2.07 (52.6)
BV7-F6-05-	3/8" Hikelok			4.39 (111.5)	2.19 (55.6)
BV7-F8-05-	1/2" Hikelok			4.60 (116.8)	2.30 (58.4)
BV7-M6-05-	6 mm Hikelok			4.14 (105.2)	2.07 (52.6)
BV7-M8-05-	8 mm Hikelok			4.15 (105.4)	
BV7-M10-05-	10 mm Hikelok			4.41 (112.0)	2.20 (55.9)
BV7-M12-05-	12 mm Hikelok			4.60 (116.8)	2.30 (58.4)

3-way Valve

Basic Ordering Number	Connection Size	Orifice Size in. (mm)	Cv	Dimension, in. (mm)	
				A	B
BV7-FNPT2-05-3-	1/8 Female NPT	0.187 (4.75)	0.75	2.94 (74.7)	1.47 (37.3)
BV7-FNPT4-05-3-	1/4 Female NPT				
BV7-F4-05-3-	1/4" Hikelok			4.14 (105.2)	2.07 (52.6)
BV7-F6-05-3-	3/8" Hikelok			4.39 (111.5)	2.19 (55.6)
BV7-F8-05-3-	1/2" Hikelok			4.60 (116.8)	2.30 (58.4)
BV7-M6-05-3-	6 mm Hikelok			4.14 (105.2)	2.07 (52.6)
BV7-M8-05-3-	8 mm Hikelok			4.15 (105.4)	
BV7-M10-05-3-	10 mm Hikelok			4.41 (112.0)	2.20 (55.9)
BV7-M12-05-3-	12 mm Hikelok			4.60 (116.8)	2.30 (58.4)

Seal Kits

Seal kits contain components of the same materials as new components

Valve Series	Basic Seal Kits Ordering Number	Kit Contents
BV7 2-way	BV7-SK-S-316-	Instructions, O-rings, stem bearing, ball, seat subassemblies (seats and seat carriers), seat springs, end screw seals, lubricant.
BV7 3-way	BV7-SK-3-316-	Instructions, stem, O-rings, backup rings, bearings, ball, seat subassemblies (seats and seat carriers), seat springs, end screw seals, lubricant.

Seal Kits Ordering Number

BV7 — SK — S — 316 — P

Series	Seal kits	Flow pattern	Body Material	Packing Material
BV7	SK Seal kits	S Straight 3 3-way	316 316L 304 304L Alloy400	T PTFE K PCTFE P PEEK

How to Order

BV7		M10		FNPT4		P05		L3		316
Series	Port 1 Type	Port 1 Size	Port 2/3 Type	Port 2/3 Size	Seat Material	Orifice Size	Handle	Flow Pattern	Body Material	
BV7	FNPT Female NPT	2 1/8 in.	Same as port 1 type and port 2 size		K PCTFE	05 0.187 in. (4.7 mm)	Black	Straight	316 316 S.S.	
	NPT Male NPT	3 3 mm			P PEEK		L Blue			
	FBT Female BSPT	4 1/4 in.	If port 2/3 and port 1 are the same, eliminate the port 2/3 designator		T PTFE		R Red		304 304 S.S.	
	MBT Male BSPT	5 5/16 in.					G Green			
	FMS Female ISO 261	6 3/8 in. or 6 mm					Y Yellow		304L 304L S.S.	
	MS Male ISO 261	8 1/2 in. or 8 mm								
	FBP Female BSPP	10 10 mm						A400 Alloy 400		
	MBP Male BSPP	12 12 mm								
	F Fractional Tube Fitting									
	M Metric Tube Fitting									