

Trunnion Ball Valves

High Technology Valve & Fitting Series



Introduction

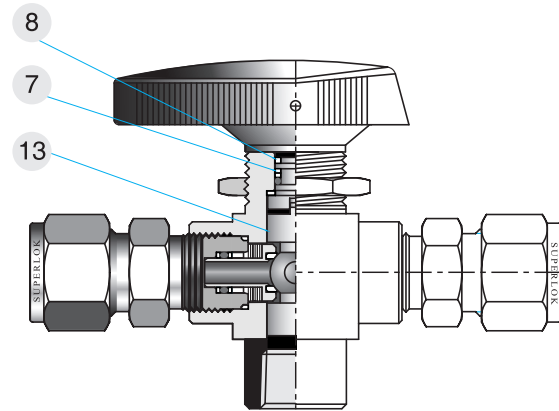
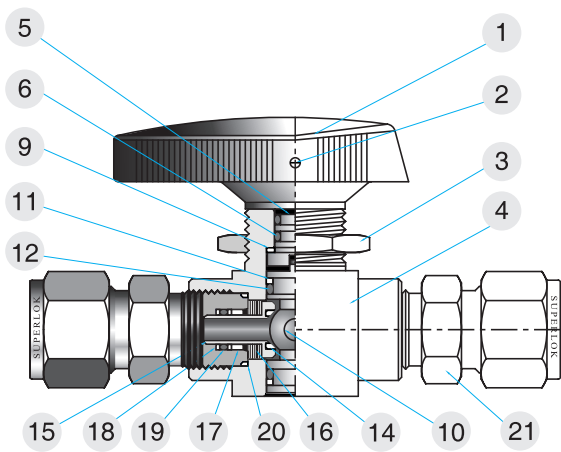
SUPERLOK High Pressure Ball Valves provide reliable shut-off or switching functions. The upper and lower trunnion bearings enhance the resistance of the trunnions against seizure, and increase the valve life in extreme applications. The compact and rugged design employs spring-loaded seats for high cycle life and low operating torques at pressures up to 10,000psig (689bar).

Features

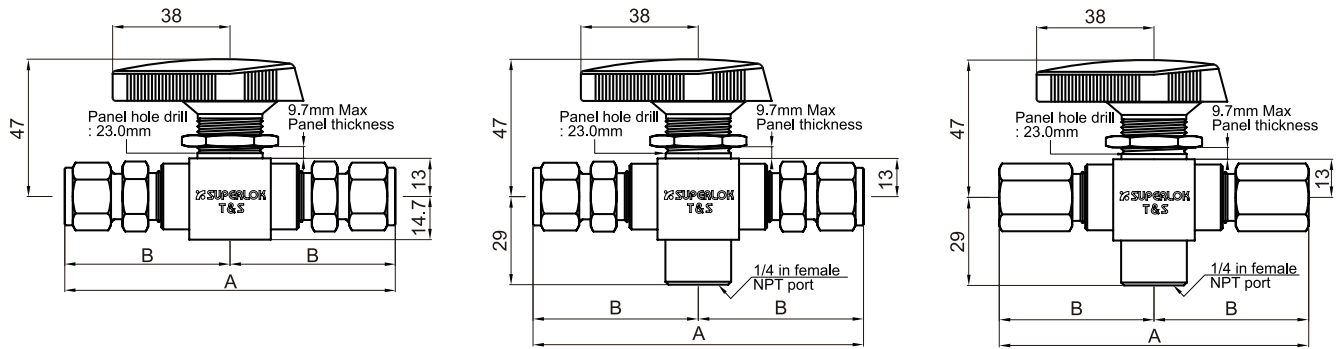
- PEEK trunnion bearings for longer cycle life
- Two-way and three way designs
- Blow-out resistant two-piece ball/stem
- Low operating torque
- Panel mountable to 9.7mm thickness
- Handle indicates direction of flow
- Positive handle stops
- 100% factory tested
- Compact, maximum flow design

Specifications

- **Pressure rating** : 10,000psig(689bar) with PEEK Seats
: 6,000psig(414bar) with PCTFE Seats
- **Temperature rating** : 0°F to 450°F(-17°C to 232°C)
- **Body material** : Stainless steel
- **Body configurations** : Two-way and three-way
- **Port connections** : 1/8" to 1/2" and 6mm to 12mm
Variety of end connection



Component	BT Series (6,000psig)		BTH Series (10,000psig)	
	2-Way	3-Way	2-Way	3-Way
	Material Grade/ASTM Specification		Material Grade/ASTM Specification	
1 Handle	Phenolic with brass insert		Phenolic with brass insert	
2 Set screw	Stainless steel		Stainless steel	
3 Panel nut	SS316/A276		SS316/A276	
4 Body	SS316/A479		SS316/A479	
5 Stem	SS316/A276		SS316/A276	
6 Stem O-ring	Viton		Viton	
7 Stem backup ring 1	-	PEEK	PEEK	
8 Stem backup ring 2	-	PTFE	PTFE	
9 Stem bearing	PEEK		PEEK	
10 Trunnion ball	SS316/A276		SS316/A276	
11 Trunnion backup ring	R-PTFE	-	-	
12 Trunnion O-ring	Viton	-	-	
13 Trunnion bearing	-	PEEK	-	
14 Ball seal	PCTFE / PTFE / PEEK		PEEK	
15 Seal retainer	SS316/A276		SS316/A276	
16 Seal spring	Stainless steel		Stainless steel	
17 Seal guide	SS316/A276		SS316/A276	
18 Retainer backup ring	R-PTFE		R-PTFE	
19 Retainer o-ring	Viton		Viton	
20 Connection seal	PTFE		PTFE	
21 End Connection	SS316/A479		SS316/A479	



2 WAY VALVE ORIFICE : 4.8mm					
BT Series Order Number	BTH Series Order Number	End Connection Inlet & Outlet	CV	Dimensions (mm)	
				A	B
SBT2-F-2N	SBTH2-F-2N	1/8" Female NPT	1.2	74.7	37.3
SBT2-2-F-4N	-	1/4" Female NPT	1.0	74.7	37.3
-	SBTH2-F-4N	1/4" Female NPT	1.0	99.8	50.0
SBT2-S-4	SBTH2-S-4	1/4" SUPERLOK	1.6	105	52.6
SBT2-S-6	SBTH2-S-6	3/8" SUPERLOK	1.4	112	55.6
SBT2-S-8	SBTH2-S-8	1/2" SUPERLOK	1.0	117	58.4
SBT2-S-6M	SBTH2-S-6M	6mm SUPERLOK	1.6	105	52.6
SBT2-S-8M	SBTH2-S-8M	8mm SUPERLOK	1.5	105	52.6
SBT2-S-10M	SBTH2-S-10M	10mm SUPERLOK	1.3	112	55.9
SBT2-S-12M	SBTH2-S-12M	12mm SUPERLOK	1.0	117	58.4
3 WAY VALVE ORIFICE : 4.8mm					
SBT3-F-2N	SBTH3-F-2N	1/8" Female NPT	0.75	74.7	37.3
SBT3-F-4N	-	1/4" Female NPT		74.7	37.3
-	SBTH3-F-4N	1/4" Female NPT		99.8	50.0
SBT3-S-4	SBTH3-S-4	1/4" SUPERLOK		105	52.6
SBT3-S-6	SBTH3-S-6	3/8" SUPERLOK		112	55.6
SBT3-S-8	SBTH3-S-8	1/2" SUPERLOK		117	58.4
SBT3-S-6M	SBTH3-S-6M	6mm SUPERLOK		105	52.6
SBT3-S-8M	SBTH3-S-8M	8mm SUPERLOK		105	52.6
SBT3-S-10M	SBTH3-S-10M	10mm SUPERLOK		112	55.9
SBT3-S-12M	SBTH3-S-12M	12mm SUPERLOK		117	58.4

* Dimensions based on SUPERLOK nuts finger-tight . Dimensions are reference only, subject to change

Technical Data

Seat Material	Temperature Rating °F(°C)	Pressure Rating at 100°F(37°C) psig (bar)
		Stainless Steel
BT Series		
PCTFE	0 to 250 (-17 to 121)	6000 (413)
PEEK	0 to 450 (-17 to 232)	
PTFE		1500 (103)
BTH Series		
PEEK	0 to 450 (-17 to 232)	6000 to 10,000 (413 to 689) depending on end connection

Pressure-Temperature Ratings

BT SERIES

Material		316SS		
Seat Material		PCTFE	PTFE	PEEK
Temperature °F(°C)		Working Pressure, psig(bar)		
0(-17) to	100 (37)	6,000 (413)	1,500 (103)	6,000 (413)
	150 (65)	3,000 (206)	1,125 (77.5)	5,800 (399)
	200 (93)	2,000 (137)	750 (51.6)	5,000 (344)
	250 (121)	1,000 (68.9)	625 (43.0)	4,100 (282)
	300 (148)	-	500 (34.4)	3,200 (220)
	350 (176)	-	375 (25.8)	2,300 (158)
	400 (204)	-	250 (17.2)	1,400 (96.4)
	450 (232)	-	125 (8.6)	500 (34.4)

BTH SERIES

Material		316SS					
End Connections		Female 1/8", 1/4" SUPERLOK 1/4", 6mm	SUPERLOK 8mm	SUPERLOK 12mm	SUPERLOK 3/8"	SUPERLOK 1/2"	SUPERLOK 10mm
Temperature °F(°C)		Working Pressure, psig(bar)					
0(-17) to	100 (37)	10,000 (689)	7,500 (516)	6,600 (454)	6,500 (454)	6,700 (461)	6,000 (413)
	150 (65)	7,500 (516)	7,500 (516)	6,600 (454)	6,500 (454)	6,700 (461)	5,900 (406)
	200 (93)	5,000 (344)	5,000 (344)	5,000 (344)	5,000 (344)	5,000 (344)	5,000 (344)
	250 (121)	4,100 (282)	4,100 (282)	4,100 (282)	4,100 (282)	4,100 (282)	4,100 (282)
	300 (148)	3,200 (220)	3,200 (220)	3,200 (220)	3,200 (220)	3,200 (220)	3,200 (220)
	350 (176)	2,300 (158)	2,300 (158)	2,300 (158)	2,300 (158)	2,300 (158)	2,300 (158)
	400 (204)	1,400 (96.4)	1,400 (96.4)	1,400 (96.4)	1,400 (96.4)	1,400 (96.4)	1,400 (96.4)
	450 (232)	500 (34.4)	500 (34.4)	500 (34.4)	500 (34.4)	500 (34.4)	500 (34.4)

Testing

- Each valve is tested with nitrogen @1000psig(69bar) to max, leak rate of 0.1SCCM.
- Hydrostatic shell test is performed at 1.5 times of the working pressure (option)

Ordering information

SBT2	-	S	-	8M	-	T	-	SS
1		2		3		4		5

1 : Valve Series

2 : End Connection Type

3 : Connection Size

4 : Seat Material Designator (T : PTFE, PC : PCTFE, PE : PEEK)

5 : Body Material Designator (SS : 316 Stainless steel)

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