

Trunnion Ball Valves

SBT 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.

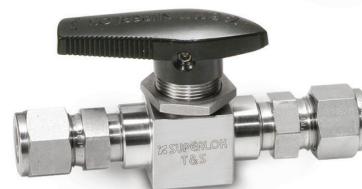
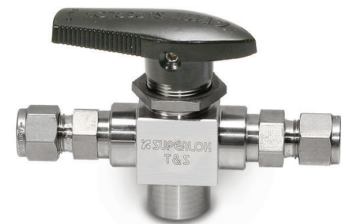
The compact and rugged design employs spring-loaded seats for high cycle life and low operating torques at pressures up to 10,000psig (689bar).

Features

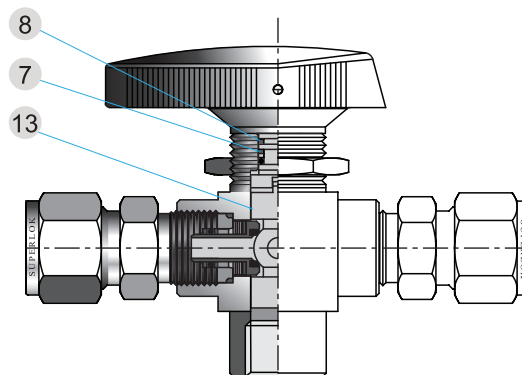
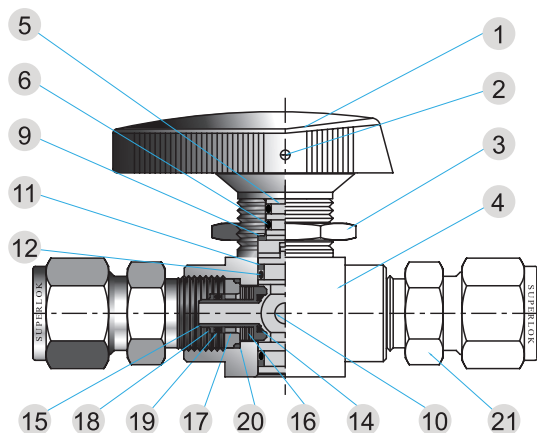
- PEEK trunnion bearings for longer cycle life
- Two-way and three way designs
- Blow-out resistant two-piece ball/stem
- Low operating torque
- Panel mountable to 9.7mm thickness
- Handle indicates direction of flow
- Positive handle stops
- 100% factory tested
- Compact, maximum flow design

Specifications

- Temperature rating : 0 to 450°F (-17 to 232°C)
- Body material : Stainless steel
- Body configurations : Two-way and three-way
- Pressure rating : 6,000psig (414bar) with PCTFE Seats
- Port connections : 1/8 to 1/2 in. and 6 to 12mm
SUPERLOK Tube Fitting or Female NPT end connection



Materials of Construction

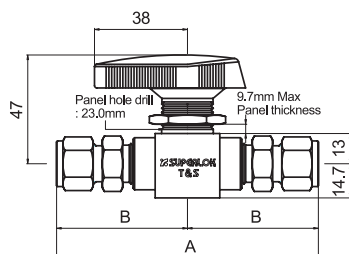


Component		BT Series (6,000psig)		BTH Series (10,000psig)	
		2-Way	3-Way	2-Way	3-Way
		Material Grade/ASTM Specification		Material Grade/ASTM Specification	
1	Handle	Phenolic with brass insert		Phenolic with brass insert	
2	Set screw	Stainless steel		Stainless steel	
3	Panel nut	SS316/A276		SS316/A276	
*4	Body	SS316/A276		SS316/A276	
*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 seat	PCTFE / PTFE / PEEK		PEEK	
*15	Seat retainer	SS316/A276		SS316/A276	
*16	Seat spring	Stainless steel		Stainless steel	
*17	Seat 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/A276		SS316/A276	

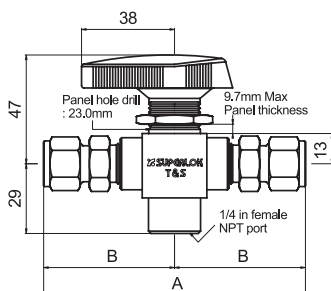
* Wetted components

Table of Dimensions

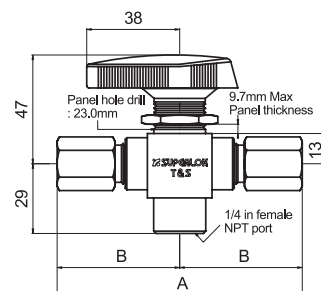
BT Series 2-Way



BT Series 3-Way



BTH Series 3-Way



2 WAY VALVE ORIFICE : 4.8mm

Part Number		End Connection	CV	Dimensions	
BT series	BTH series	Inlet & Outlet		A	B
SBT2-F2N	SBTH2-F2N	1/8" Female NPT	1.2	74.7	37.3
SBT2-F4N	-	1/4" Female NPT	1.0	74.7	37.3
-	SBTH2-F4N	1/4" Female NPT	1.0	99.8	50.0
SBT2-S4	SBTH2-S4	1/4" SUPERLOK	1.6	105	52.6
SBT2-S6	SBTH2-S6	3/8" SUPERLOK	1.4	112	55.6
SBT2-S8	SBTH2-S8	1/2" SUPERLOK	1.0	117	58.4
SBT2-S6M	SBTH2-S6M	6mm SUPERLOK	1.6	105	52.6
SBT2-S8M	SBTH2-S8M	8mm SUPERLOK	1.5	105	52.6
SBT2-S10M	SBTH2-S10M	10mm SUPERLOK	1.3	112	55.9
SBT2-S12M	SBTH2-S12M	12mm SUPERLOK	1.0	117	58.4

3 WAY VALVE ORIFICE: 3.8 mm

Part Number		End Connection	CV	Dimensions	
BT series	BTH series	Inlet & Outlet		A	B
SBT3-F2N	SBTH3-F2N	1/8" Female NPT	0.75	74.7	37.3
SBT3-F4N	-	1/4" Female NPT		74.7	37.3
-	SBTH3-F4N	1/4" Female NPT		99.8	50.0
SBT3-S4	SBTH3-S4	1/4" SUPERLOK		105	52.6
SBT3-S6	SBTH3-S6	3/8" SUPERLOK		112	55.6
SBT3-S8	SBTH3-S8	1/2" SUPERLOK		117	58.4
SBT3-S6M	SBTH3-S6M	6mm SUPERLOK		105	52.6
SBT3-S8M	SBTH3-S8M	8mm SUPERLOK		105	52.6
SBT3-S10M	SBTH3-S10M	10mm SUPERLOK		112	55.9
SBT3-S12M	SBTH3-S12M	12mm SUPERLOK		117	58.4

- Dimensions and Drawings are for reference only and are subject to change without prior notice.
- Unless otherwise specified, all dimensions are in millimeters.
- Sizes, pressure classes, and end connections not listed are available upon request.
- Dimensions shown with SUPERLOK nuts finger-tight, where applicable.

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		F2, F4 S4, S6MM	S10MM	S6, S8MM	S8	S12MM
Temperature °F(°C)		Working Pressure, psig(bar)				
0(-17) to	100 (37)	10,000 (689)	8,400 (578)	7,500 (516)	6,700 (461)	6,600 (454)
	150 (65)	7,500 (516)	7,500 (516)	7,500 (516)	6,700 (461)	6,600 (454)
	200 (93)	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)
	300 (148)	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)
	400 (204)	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)

Testing

- Every valve is factory tested with nitrogen at 1000psig (68bar). Seats and body seals are required to have less than 0.1 SCCM leakage.
- Hydrostatic shell test is performed at 1.5 times the working pressure (optional).
- Optional testing is available upon request.

Ordering information

Example :	S	B	T	2	-	S	8	M	-	P	T
	1					2	3			4	

* 316 Stainless Steel is Standard Body Material.

1. Valve Series

- ☐ SBT2 ☐ SBTH2
☐ SBT3 ☐ SBTH3

2. End Connection

- ☐ S = SUPERLOK Tube Fitting
☐ F = Female Thread

3. Connection Size

Fractional Tube	Connection Size (inch)	1/8	1/4	3/8	1/2
	Designator	2	4	6	8
Metric Tube	Connection Size (mm)	6	8	10	12
	Designator	6M	8M	10M	12M
Thread (inch)		1/4	3/8	1/2	
Screwed NPT		4N	6N	8N	
Screwed BSPT		4R	6R	8R	

4. Seat Material

- ☐ (Blank) = PCTFE (Standard)
☐ PT = PTFE
☐ PE = PEEK

※ For special sizes and configurations, please consult BMT (SUPERLOK) sales representative.