

Turnnion Ball Valves

BT 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

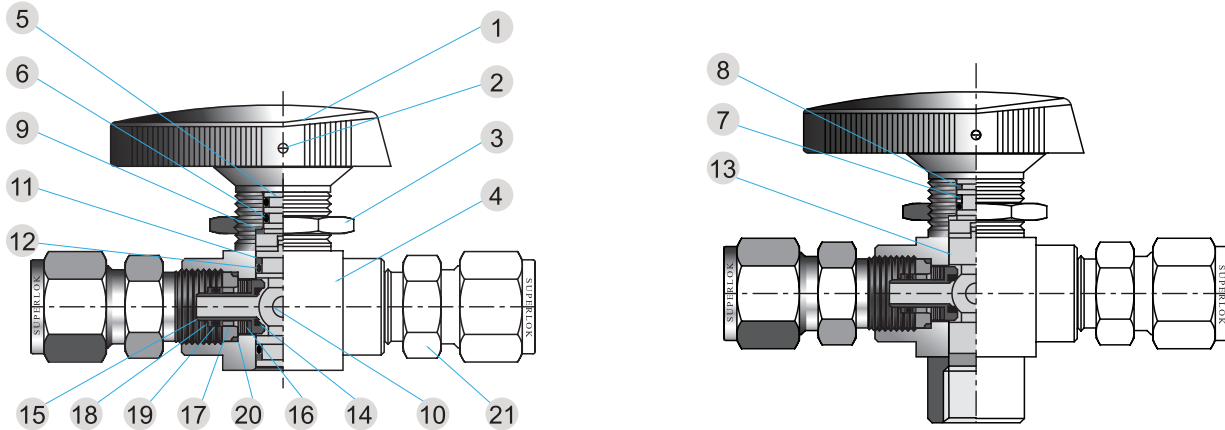
- PEEK trunnion bearings for longer cycle life
- Two-way and three way designs
- Blow-out resistant two-piece ball/stem
- Low operating torque
- Panel mountable to 9.7mm thickness
- Handle indicates direction of flow
- Positive handle stops
- 100% factory tested
- Compact, maximum flow design



Specifications

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

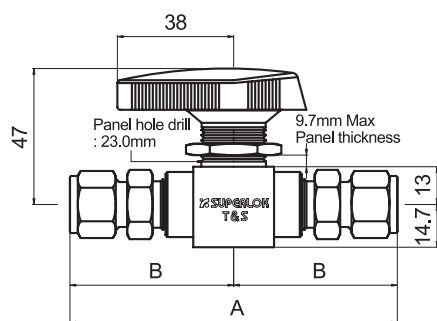
Materials of Construction



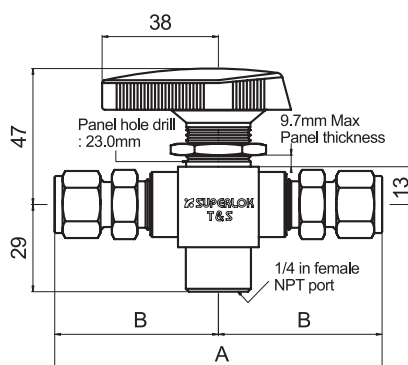
Component	BT Series (6,000psig)		BTH Series (10,000psig)	
	2-Way	3-Way	2-Way	3-Way
	Material Grade/ASTM Specification		Material Grade/ASTM Specification	
1	Handle		Phenolic with brass insert	
2	Set screw		Stainless steel	
3	Panel nut		SS316/A276	
4	Body		SS316/A276	
5	Stem		SS316/A276	
6	Stem O-ring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

Instrumentation Ball Valves

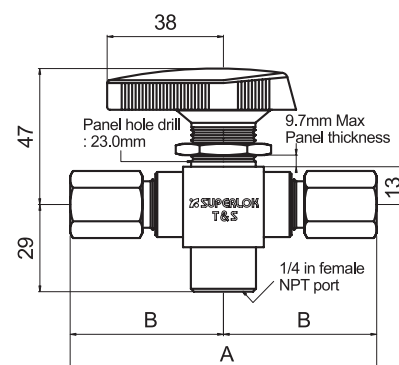
BT Series 2-Way



BT Series 3-Way



BTH Series 3-Way



2 WAY VALVE ORIFICE : 4.8mm

BT Series Order Number	BTH Series Order Number	End Connection Inlet & Outlet	CV	Dimensions	
				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 : 4.8mm

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 shown with SUPERLOK nuts finger-tight.
- All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change.

Technical Data

Seat Material	Temperature Rating °F(°C)	Pressure Rating at 100°F(37°C)	
		psig (bar)	
BT Series			
PCTFE	0 to 250 (-17 to 121)	6000 (413)	
PEEK	0 to 450 (-17 to 232)	1500 (103)	
PTFE			
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

- 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 as an option.
- Optional testing is available upon request.

Ordering information

Example: **SBT2 - S 8M - PT**

1
2
3
4

1. Valve Series
 2. End Connection Type
 3. Connection Size
 4. Seat Material Designator (PT : PTFE, PC : PCTFE, PE : PEEK)
- Nil : Standard Body Material (316 Stainless steel)