

Floating Ball Valves

Design Features

Actuator Mounting Design (ISO-5211)

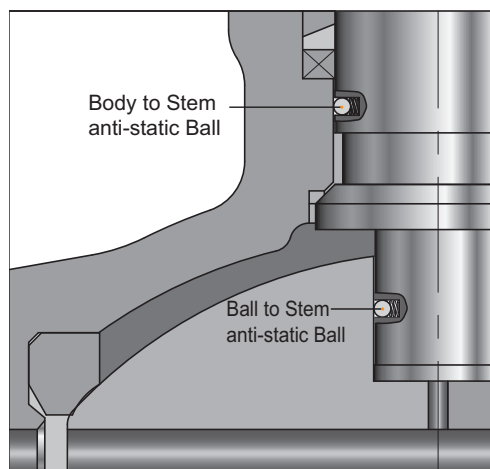
Flanged end products shall have an integrally cast actuator mounting pad. This feature provides for direct mount of gear operators or actuators. The additional cost for a separate mounting bracket is eliminated.

Stem Seal Design

The combination of stem packing and O-rings guarantee zero emissions even at low pressure.
The primary seal is made out of flexible graphite, a material with extremely good resistance to fire conditions.
The anti blow out stem is inserted from inside of the valve body.

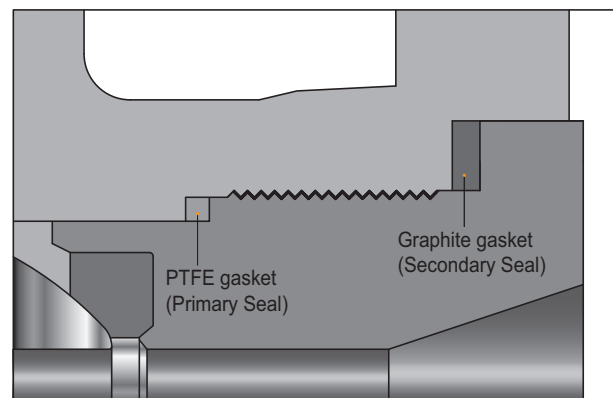
Anti-Static Design

Ball valves present a particular problem with the build up of static electricity around the ball.
Ball valves have anti-static devices which provides contact between stem and ball, and stem and body to eliminate static electricity.



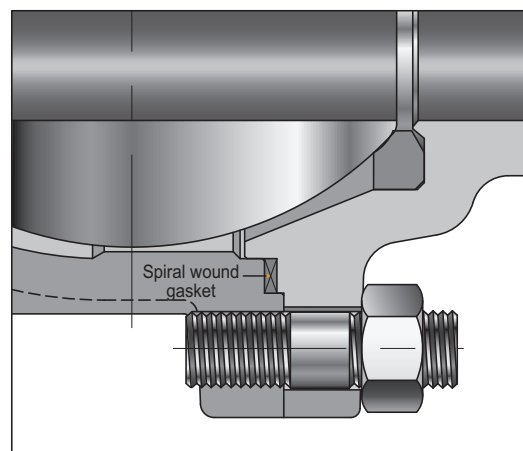
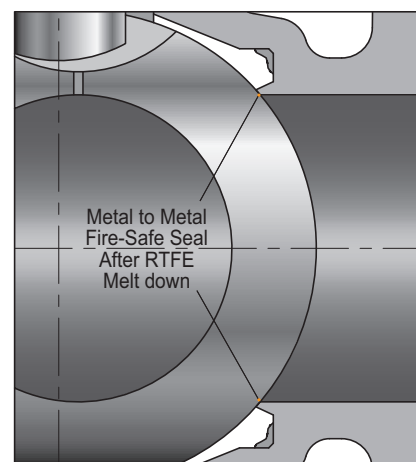
Unibody Ball Valve Design

The PTFE gasket packing acts as a primary seal for the Unibody ball valves. The secondary seal has been made out of flexible graphite, a material with extremely good resistance to fire conditions.

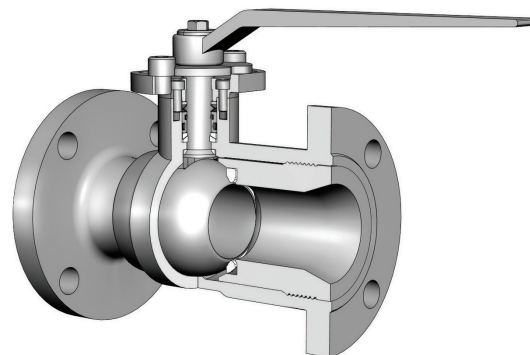
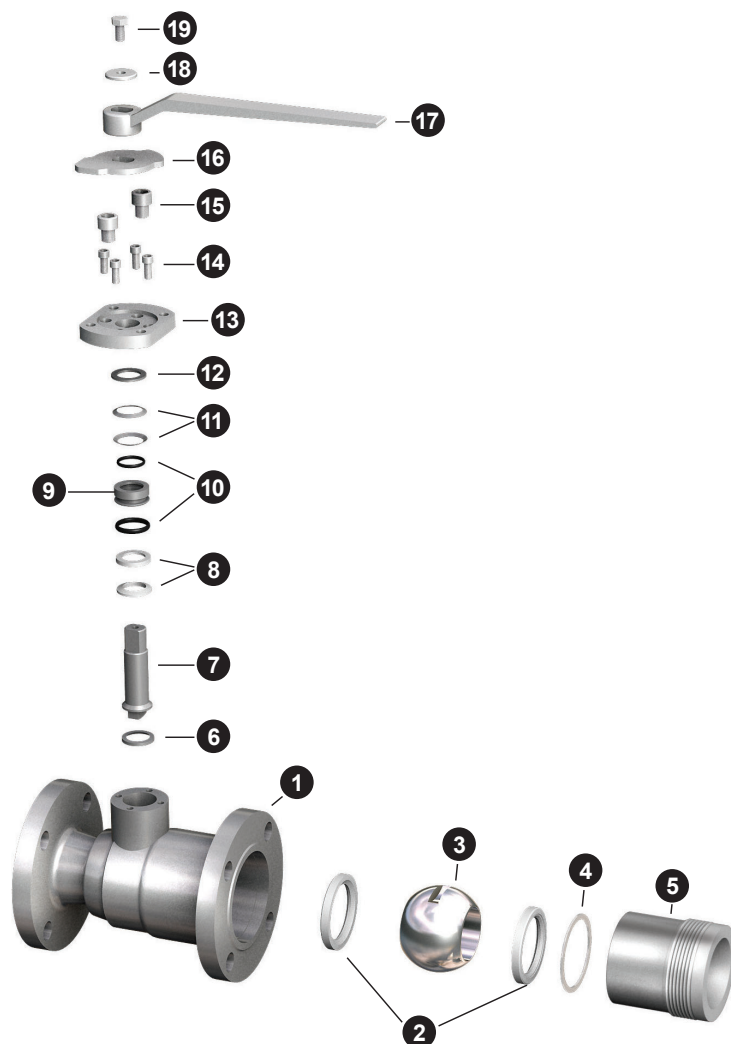


Fire Safe Design

In the event of a fire the valve is required to make a downstream seal.
Even after the disintegration of the RTFE seats, BMT ball valves have an excellent metal to metal seal.
Special attention has been paid to the mechanical strength and sealing efficiency of the central flanged joint in the valve body.



1-piece Cast Steel Floating Ball Valve



Features

- Size: 1/2" ~ 6"
- Class: 150 ~ 300
- One Piece Cast Steel Body
- Floating Ball, Reduced Bore
- Anti-Static Device
- Blow-out Proof Stem
- Fire Safe Design

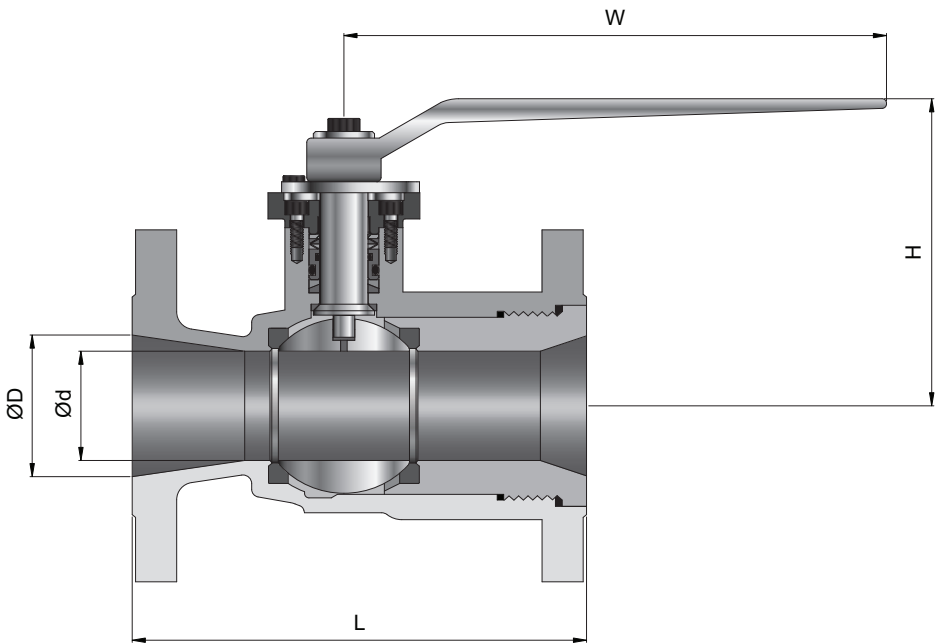
Specifications

- Design: ASME B16.34 / API 608 / ISO 17292
- Face to Face: ASME B16.10
- End Flange: ASME B16.5
- Test: API 598 / API 6D / BS EN 12266
- Fire Safe Test: API 607 / API 6FA / ISO 10497
- NACE MR-01-75 (Optional)

Materials of Construction

NO.	COMPONENT	MATERIAL	
		STAINLESS STEEL	CARBON STEEL
1	BODY	ASTM A351-CF8M	ASTM A216-WCB
2	SEAT	PTFE	PTFE
3	BALL	ASTM A351 CF8M	ASTM A351 CF8M
4	INSERT SEAL	PTFE/GRAPHITE	PTFE/GRAPHITE
5	INSERT	ASTM A351-CF8M	ASTM A216-WCB
6	THRUST WASHER	PEEK	PEEK
7	STEM	ASTM A479-TP316	ASTM A276-TP316
8	PACKING	PTFE/GRAPHITE	PTFE/GRAPHITE
9	STEM SEAL RETAINER	ASTM A276-TP316	ASTM A276-TP316
10	O-RING	VITON	VITON
11	DISC SPRING	STAINLESS STEEL	STAINLESS STEEL
12	GLAND	ASTM A276-TP316	ASTM A276-TP316
13	GLAND FLANGE	ASTM A351-CF8M	ASTM A216-WCB
14	FLANGE BOLT	ASTM A193-B8	ASTM A193-B7
15	STOPPER BOLT	ASTM A193-B8	ASTM A193-B7
16	STOPPER	STAINLESS STEEL	CARBON STEEL
17	HANDLE	STAINLESS STEEL	CARBON STEEL
18	PLAIN WASHER	ASTM A240-TP304	ASTM A240-TP304
19	HANDLE BOLT	ASTM-A193-B8	ASTM A307-B

Table of Dimensions



Class150

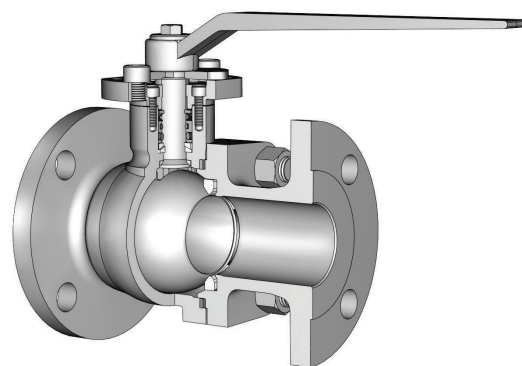
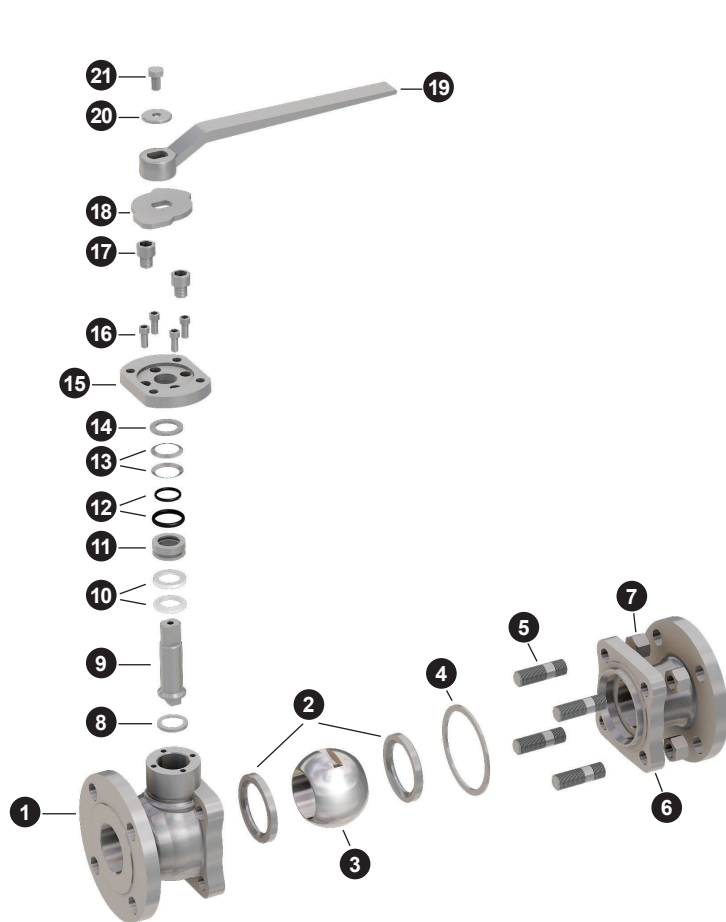
Size(inch)	Ød	ØD	L	H	W	Weight(Kg)
1/2	10	15	108	78	150	1.6
3/4	15	20	117	80	150	2.5
1	20	25	127	98	220	3
1-1/2	25	38	165	118	250	6
2	38	50	178	133	250	9
3	65	76	203	156	250	16
4	76	100	229	194	350	27.5
6	100	152	394	209	460	50

Class300

Size(inch)	Ød	ØD	L	H	W	Weight(Kg)
1/2	10	15	140	78	150	2.5
3/4	15	20	152	80	150	4.2
1	20	25	165	98	220	4.8
1-1/2	25	38	191	118	250	8.6
2	38	50	216	133	250	11.5
3	65	76	283	156	250	23.5
4	76	100	305	194	350	39
6	100	152	403	209	460	65

- Dimensions and Drawings are for reference only and are subject to change without prior notice.
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- Sizes, pressure classes, and end connections not listed are available upon request.

2-piece Cast Steel Floating Ball Valve



Features

- Size: 1/2" ~ 10"
- Class: 150 ~ 300
- Two Piece Cast Steel Body
- Floating Ball, Full & Reduced Bore
- Anti-Static Device
- Blow-out Proof Stem
- Fire Safe Design
- Low Emission

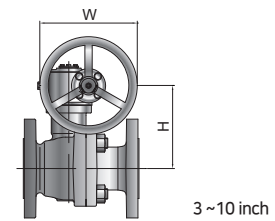
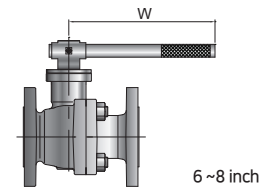
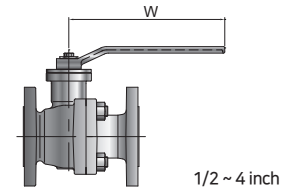
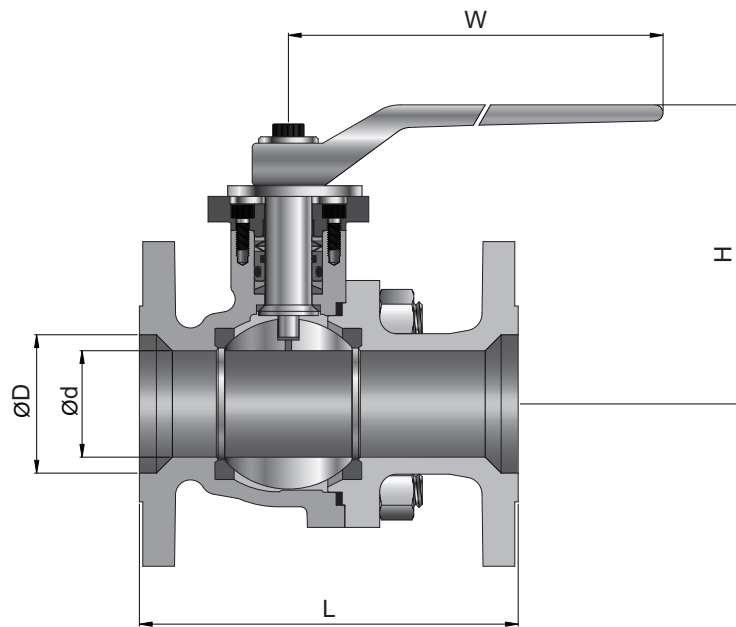
Specifications

- Design: ASME B16.34 / ISO 17292 / API 6D
- Face to Face: ASME B16.10
- End Flange: ASME B16.5
- Test: API 598 / API 6D / BS EN 12266
- Fire Safe Test: API 607 / API 6FA / ISO 10497
- NACE MR-01-75 (Optional)

Materials of Construction

NO.	COMPONENT	MATERIAL	
		STAINLESS STEEL	CARBON STEEL
1	BODY	ASTM A351-CF8M	ASTM A216-WCB
2	SEAT	PTFE	PTFE
3	BALL	ASTM A351 CF8M	ASTM A351 CF8M
4	BODY GASKET	PTFE/SWG(SS316+GRAPHITE)	PTFE/SWG(SS316+GRAPHITE)
5	STUD BOLT	ASTM A193-B8	ASTM A193-B7
6	BODY CAP	ASTM A351-CF8M	ASTM A216-WCB
7	BODY NUT	ASTM A194-8	ASTM A194-2H
8	THRUST WASHER	PEEK	PEEK
9	STEM	ASTM A479-316	ASTM A276-TP316
10	PACKING	PTFE/GRAPHITE	PTFE/GRAPHITE
11	STEM SEAL RETAINER	ASTM A276-TP316	ASTM A276-TP316
12	O-RING	VITON	VITON
13	DISC SPRING	STAINLESS STEEL	CARBON STEEL
14	GLAND	ASTM A479-316	ASTM A276-TP316
15	GLAND FLANGE	ASTM A351-CF8M	ASTM A216-WCB
16	FLANGE BOLT	ASTM A193-B8	ASTM A193-B7
17	STOPPER BOLT	ASTM A193-B8	ASTM A193-B7
18	STOPPER	STAINLESS STEEL	CARBON STEEL
19	HANDLE	STAINLESS STEEL	CARBON STEEL
20	PLAIN WASHER	ASTM A240-TP304	ASTM A240-TP304
21	HANDLE BOLT	ASTM A193-B8	ASTM A307-B

Table of Dimensions



Full Bore

Class150

Size (inch)	ØD	L	H	W	Weight (Kg)
1/2	15	108	88	140	2.2
3/4	20	117	92	140	2.7
1	25	127	101	170	4.5
1-1/2	38	165	124	250	7.0
2	50	178	142	250	9.5
2-1/2	65	191	159	350	15
3	76	203	194	350	19
4	100	229	210	460	30
6	152	394	292	*400	75
8	203	457	318	*500	115
10	254	533	408	*500	180.0

*Gear Operated

Reduced Bore

Class150

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3/4 × 1/2	15	20	117	88	140	2
1 × 3/4	20	25	127	92	140	3.5
1-1/2 × 1	25	38	165	101	170	5
2 × 1-1/2	38	50	178	124	250	9
2-1/2 × 2	50	65	191	142	250	13.0
3 × 2	50	76	203	159	350	21
4 × 3	76	100	229	194	460	30
6 × 4	100	152	394	210	460	50
8 × 6	152	203	457	292	*400	100
10 × 8	203	254	533	318	*500	180

*Gear Operated

Class300

Size (inch)	ØD	L	H	W	Weight (Kg)
1/2	15	140	88	140	2.5
3/4	20	152	92	140	3.5
1	25	165	101	170	5.5
1-1/2	38	191	124	250	9.0
2	50	216	142	250	13
2-1/2	65	241	159	350	21
3	76	283	194	350	27
4	100	305	210	460	40
6	152	403	292	*400	95
8	203	502	318	*500	150
10	254	568	408	*500	230.0

*Gear Operated

Class300

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3/4 × 1/2	15	20	152	88	140	3
1 × 3/4	20	25	165	92	140	4.6
1-1/2 × 1	25	38	191	101	170	7
2 × 1-1/2	38	50	216	124	250	12.5
2-1/2 × 2	50	65	241	142	250	17
3 × 2	50	76	283	159	350	33
4 × 3	76	100	305	194	460	40
6 × 4	100	152	403	210	460	70
8 × 6	152	203	502	292	*400	130.0
10 × 8	203	254	568	318	*500	220

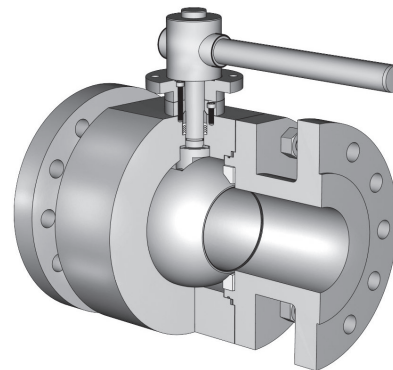
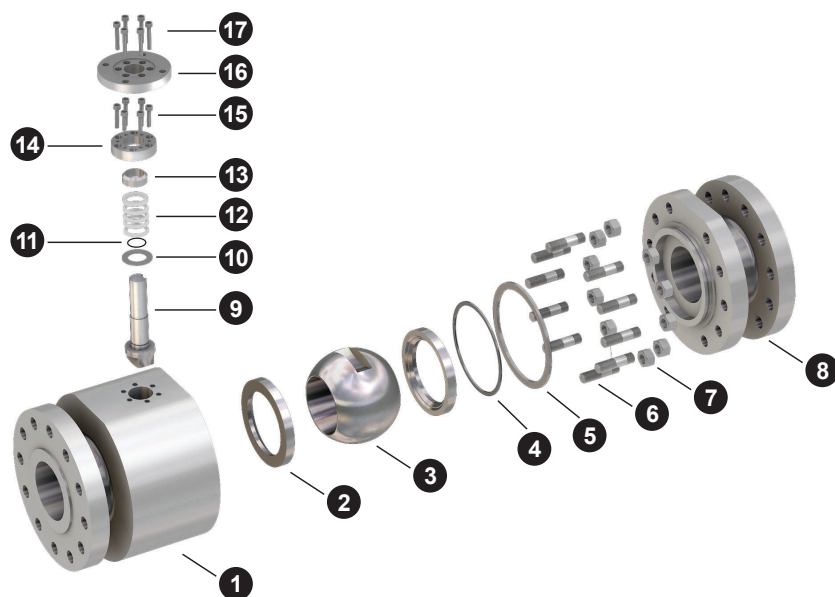
*Gear Operated

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- Unless otherwise specified, all dimensions are in millimeters.

- Sizes, pressure classes, and end connections not listed are available upon request.

2-piece Forged Steel Floating Ball Valve



Features

- Size: 1/2" ~ 10"
- Class: 150 ~ 2500
- Two Pieces Forged Steel Body
- Floating Ball, Full & Reduced Bore
- Anti-Static Device
- Blow-out Proof Stem
- Fire Safe Design
- Low Emission

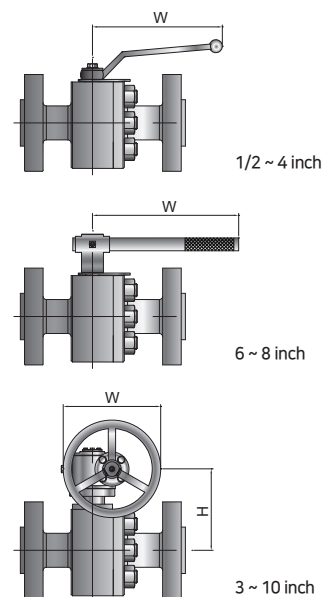
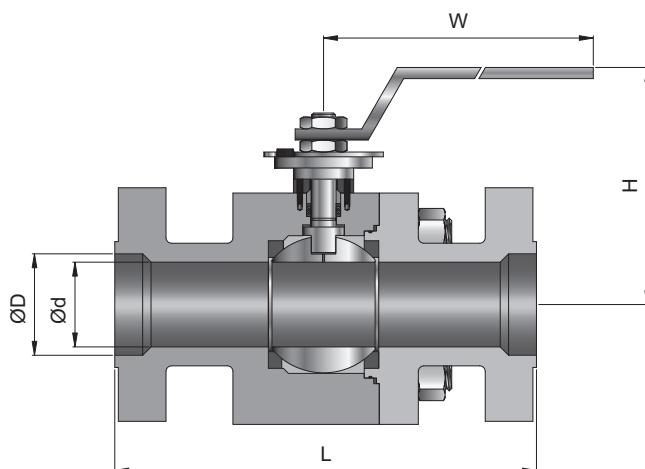
Specifications

- Design: ASME B16.34 / ISO 17292 / API 6D
- Face to Face: ASME B16.10
- End Flange: ASME B16.5
- Test: API 598 / BS EN 12266
- Fire Safe Test: API607 / API 6FA / ISO 10497
- NACE MR-01-75 (Optional)

Materials of Construction

NO.	COMPONENT	MATERIAL	
		STAINLESS STEEL	CARBON STEEL
1	BODY	ASTM A182-F316	ASTM A105
2	SEAT	R.PTFE/PEEK	R.PTFE/PEEK
3	BALL	ASTM A479-TP316	ASTM A479-TP316
4	BODY O-RING	VITON	VITON
5	BODY GASKET	PTFE/SWG(SS316+GRAPHITE)	PTFE/SWG(SS316+GRAPHITE)
6	STUD BOLT	ASTM A193-B8M	ASTM A193-B7
7	BODY NUT	ASTM A194-8M	ASTM A194-2H
8	BODY CAP	ASTM A182-F316	ASTM A105
9	STEM	ASTM A276-TP316	ASTM A276-TP316
10	THRUST WASHER	PEEK	PEEK
11	STEM O-RING	VITON	VITON
12	PACKING	PTFE/GRAPHITE	PTFE/GRAPHITE
13	GLAND	ASTM A276-TP316	ASTM A276-TP316
14	GLAND FLANGE	ASTM A276-TP316	ASTM A105
15	BOLT	ASTM A193-B8M	ASTM A193-B7
16	TOP FLANGE	ASTM A182-F316	ASTM A105
17	BOLT	ASTM A193-B8M	ASTM A193-B7

Table of Dimensions



Full Bore

Class150

Size (inch)	ØD	L	H	W	Weight (Kg)
1/2	15	108	81	150	2.8
3/4	20	117	85	150	3.7
1	25	127	98	180	5.3
1-1/2	38	165	133	280	8.3
2	50	178	141	280	11.2
2-1/2	65	191	139	400	18.4
3	76	203	150	400	23.0
4	100	229	223	650	39.3
6	152	394	297	*300	90.0
8	203	457	378	*300	140.0
10	254	533	408	*400	230.0

*Gear Operated

Class300

Size (inch)	ØD	L	H	W	Weight (Kg)
1/2	15	140	81	150	3.0
3/4	20	152	85	150	4.0
1	25	165	98	180	6.6
1-1/2	38	191	133	280	12.9
2	50	216	141	280	18.9
2-1/2	65	241	139	400	28.0
3	76	283	150	400	39.0
4	100	305	223	650	60.0
6	152	403	297	*300	130.0
8	203	502	378	*400	195.0
10	254	568	408	*400	290.0

*Gear Operated

Class600

Size (inch)	ØD	L	H	W	Weight (Kg)
1/2	15	165	66	150	3.5
3/4	20	191	88	170	5.0
1	25	216	90	250	7.5
1-1/2	38	241	120	400	15.0
2	50	292	135	400	23.0
3	76	356	164	400	48.0
4	100	432	224	995	80.0
6	152	559	260	*400	156.0

*Gear Operated

Reduced Bore

Class150

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3/4 × 1/2	15	20	117	81	150	3.5
1 × 3/4	20	25	127	85	150	5.0
1-1/2 × 1	25	38	165	98	180	7.5
2 × 1-1/2	38	50	178	133	280	10.0
2-1/2 × 2	50	65	191	141	280	16.0
3 × 2	50	76	203	141	280	21.0
4 × 3	76	100	229	150	400	35.0
6 × 4	100	152	394	223	650	73.0
8 × 6	152	203	457	297	*300	120.0
10 × 8	203	254	533	378	*300	200.0

*Gear Operated

Class300

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3/4 × 1/2	15	20	152	81	150	3.7
1 × 3/4	20	25	165	85	150	5.8
1-1/2 × 1	25	38	191	98	180	10.5
2 × 1-1/2	38	50	216	133	280	16.1
2-1/2 × 2	50	65	241	141	280	24.5
3 × 2	50	76	283	141	280	34.7
4 × 3	76	100	305	150	400	53.0
6 × 4	100	152	403	223	650	100.0
8 × 6	152	203	502	297	*300	170.0
10 × 8	203	254	568	378	*400	250.0

*Gear Operated

Class600

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3/4 × 1/2	15	20	191	66	150	4.0
1 × 3/4	20	25	216	88	170	5.5
1-1/2 × 1	25	38	241	90	250	10.5
2 × 1-1/2	38	50	292	120	400	20.0
3 × 2	50	76	356	135	400	29.0
4 × 3	76	100	432	164	400	59.0
6 × 4	100	152	559	224	995	95.0
8 × 6	152	203	660	260	*400	190.0

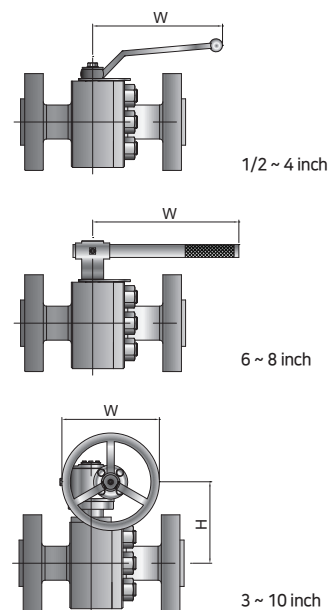
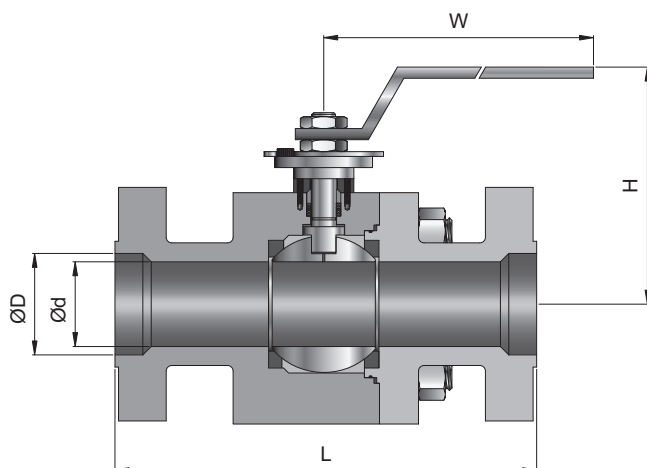
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Table of Dimensions



Full Bore

Class900

Size (inch)	ØD	L	H	W	Weight (Kg)
1/2	15	216	75	140	5.0
3/4	20	229	91	180	8.0
1	25	254	108	250	10.0
1-1/2	38	305	133	400	20.0
2	50	368	150	500	30.0
3	76	381	160	500	55.0

Reduced Bore

Class900

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3/4 × 1/2	15	20	229	75	140	7.0
1 × 3/4	20	25	254	91	180	9.5
1-1/2 × 1	25	38	305	108	250	16.5
2 × 1-1/2	38	50	368	133	400	23.0
3 × 2	50	76	381	150	500	42.0
4 × 3	76	100	457	160	500	65.0

Class1500

Size (inch)	ØD	L	H	W	Weight (Kg)
1/2	15	216	75	140	5.0
3/4	20	229	91	180	8.0
1	25	254	108	250	10.0
1-1/2	38	305	133	400	20.0
2	50	368	150	500	30.0
3	76	470	160	500	65.0

Class1500

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3/4 × 1/2	15	20	229	75	140	7.0
1 × 3/4	20	25	254	91	180	9.5
1-1/2 × 1	25	38	305	108	250	16.5
2 × 1-1/2	38	50	368	133	400	23.0
3 × 2	50	76	470	150	500	60.0
4 × 3	76	100	546	160	500	78.0

Class2500

Size (inch)	ØD	L	H	W	Weight (Kg)
1/2	15	264	88	230	7.5
3/4	20	273	117	230	12.0
1	25	308	128	300	15.0
1-1/2	38	387	148	400	30.0
2	42	451	183	500	37.5

Class2500

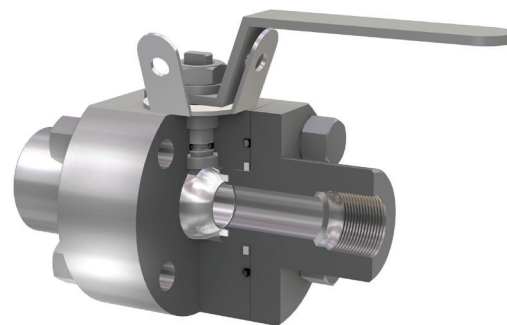
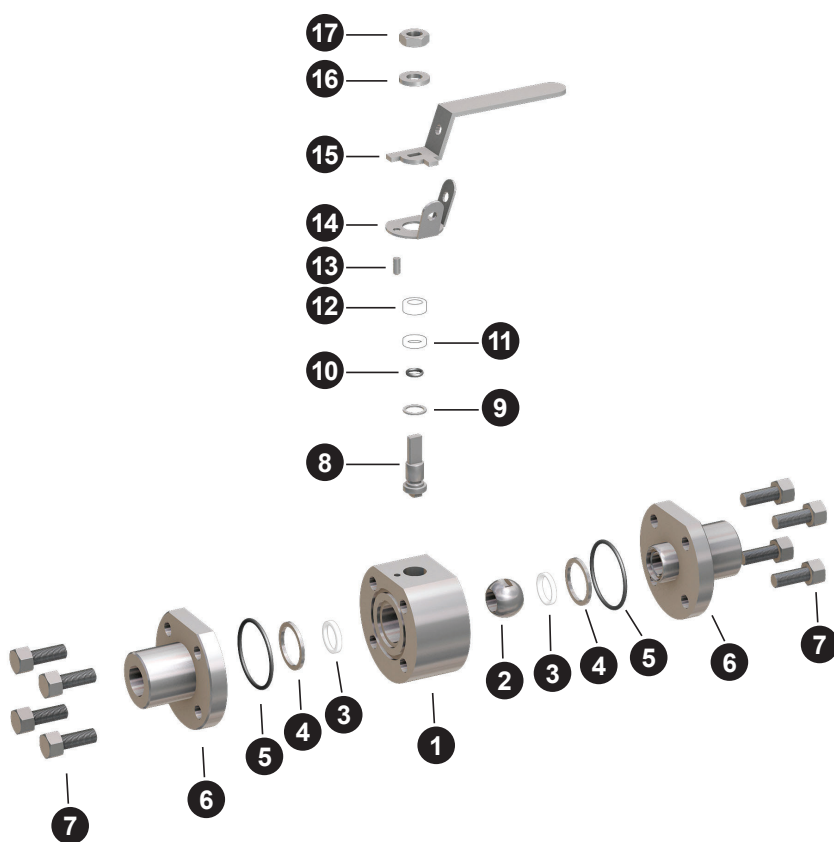
Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3/4 × 1/2	15	20	273	88	230	11.0
1 × 3/4	20	25	308	117	230	14.0
1-1/2 × 1	25	38	387	128	300	25.0
2 × 1-1/2	38	50	451	148	400	35.0
3 × 2	42	76	578	183	500	60.0

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- Sizes, pressure classes, and end connections not listed are available upon request.

Small-size Forged Steel Floating Ball Valve



Features

- Size: 1/2" ~ 2"
- Class: 800 ~ 2500
- Three Pieces Forged Steel Body
- Floating Ball
- Anti-Static Device
- Blow-out Proof Stem

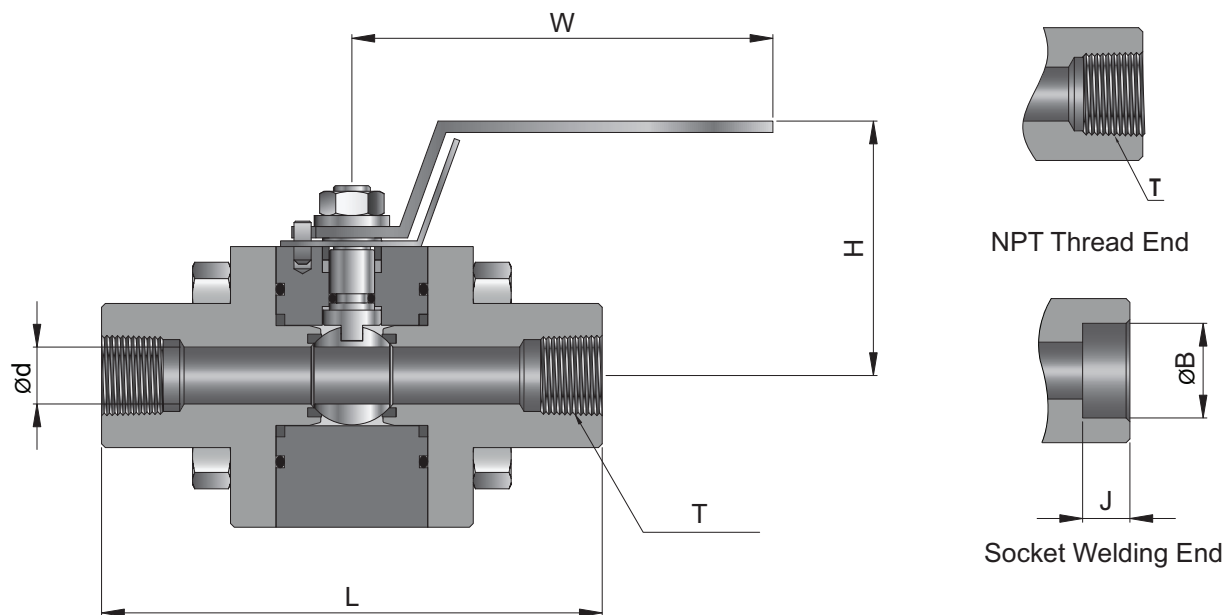
Specifications

- Design: ASME B16.34 / ISO 17292
- Face to Face: Manufacturer Standard
- Thread End: ASME B1.20.1
- Socket Welding End: ASME B16.11
- Test: API 598 / BS EN 12266
- NACE MR-01-75 (Optional)

Materials of Construction

NO.	COMPONENT	MATERIAL	
		STAINLESS STEEL	CARBON STEEL
1	BODY	ASTM A182-F316	ASTM A105
2	BALL	ASTM A479-TP316	ASTM A479-TP316
3	SEAT	R.PTFE/PEEK	R.PTFE/PEEK
4	BODY GASKET	PTFE/GRAPHITE	PTFE/GRAPHITE
5	BODY O-RING	VITON	VITON
6	BODY CAP	ASTM A182-F316	ASTM A105
7	FLANGE BOLT	ASTM A193-B8M	ASTM A193-B7
8	STEM	ASTM A276-TP316	ASTM A276-TP316
9	THRUST WASHER	PEEK	PEEK
10	STEM O-RING	VITON	VITON
11	STEM PACKING	PTFE/GRAPHITE	PTFE/GRAPHITE
12	GLAND	ASTM A276-TP316	ASTM A276-TP316
13	PIN	STAINLESS STEEL	CARBON STEEL
14	LOCK PLATE	STAINLESS STEEL	CARBON STEEL
15	HANDLE	STAINLESS STEEL	CARBON STEEL
16	PLAIN WASHER	STAINLESS STEEL	CARBON STEEL
17	NUT	ASTM A194-8M	ASTM A194-2H

Table of Dimensions



Class800

Port	Size	$\varnothing d$	H	L		W	$\varnothing B$	J	T
				FNPT	SW				
Reduced Bore	1/2 x 3/8	10.0	60.0	90	140.0	140.0	21.8	9.6	1/2
	3/4 x 1/2	15.0	100.0	95	155.0	160.0	27.1	12.7	3/4
	1 x 3/4	20.0	110.0	120	165.0	200.0	33.8	12.7	1
	1-1/4 x 1	25.0	88.0	150	180.0	200.0	42.6	12.7	1-1/4
	1-1/2 x 1-1/4	32.0	88.0	160	190.0	250.0	48.7	12.7	1/1/2
	2 x 1-1/2	38.0	93.0	240	230.0	250.0	61.2	15.7	2
Full Bore	1/2	15.0	62.0	95	140.0	160.0	21.8	9.6	1/2
	3/4	20.0	110.0	120	155.0	160.0	27.1	12.7	3/4
	1	25.0	88.0	150	165.0	200.0	33.8	12.7	1
	1-1/4	32.0	93.0	160	180.0	250.0	42.6	12.7	1-1/4
	1-1/2	38.0	93.0	170	190.0	250.0	48.7	12.7	1/1/2
	2	50.0	107.0	180	230.0	300.0	61.2	15.7	2

Class1500

Port	Size	$\varnothing d$	H	L		W	$\varnothing B$	J	T
				FNPT	SW				
Reduced Bore	1/2 x 3/8	10.0	65.0	90	140.0	140.0	21.8	9.6	1/2
	3/4 x 1/2	15.0	100.0	110	155.0	160.0	27.1	12.7	3/4
	1 x 3/4	20.0	115.0	140	165.0	200.0	33.8	12.7	1
	1-1/4 x 1	25.0	93.0	230	210.0	250.0	42.6	12.7	1-1/4
	1-1/2 x 1-1/4	32.0	93.0	260	240.0	250.0	48.7	12.7	1/1/2
	2 x 1-1/2	38.0	105.0	280	270.0	300.0	61.2	15.7	2
Full Bore	1/2	15.0	67.0	105	140.0	160.0	21.8	9.6	1/2
	3/4	20.0	110.0	130	170.0	160.0	27.1	12.7	3/4
	1	25.0	93.0	170	190.0	250.0	33.8	12.7	1
	1-1/4	32.0	105.0	180	200.0	250.0	42.6	12.7	1-1/4
	1-1/2	38.0	105.0	260	240.0	300.0	48.7	12.7	1/1/2

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- Unless otherwise specified, all dimensions are in millimeters.

- Sizes, pressure classes, and end connections not listed are available upon request.

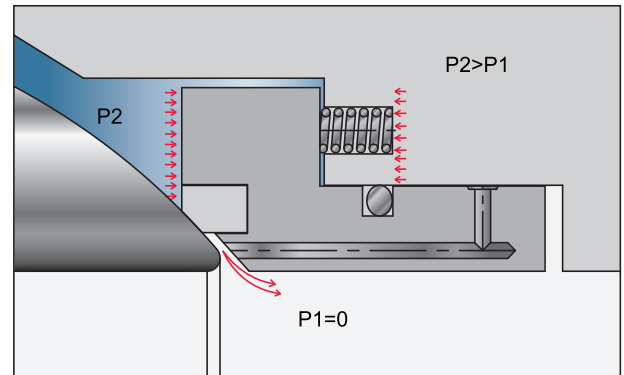
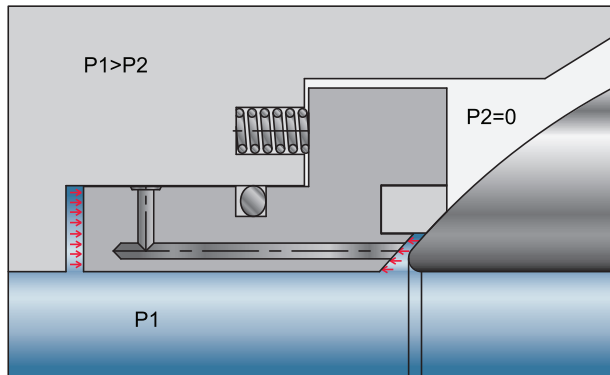
Trunnion Mounted Ball Valves

Design Features

Single Piston Effect (Standard)

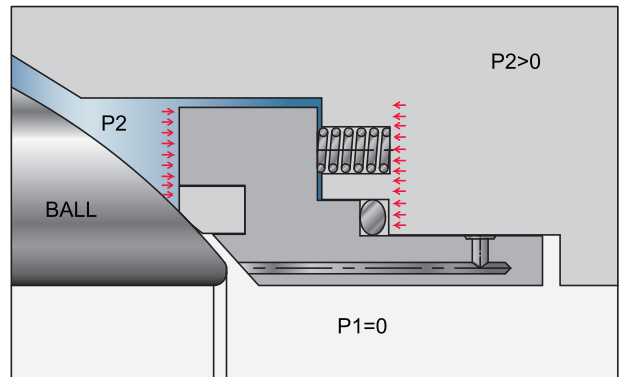
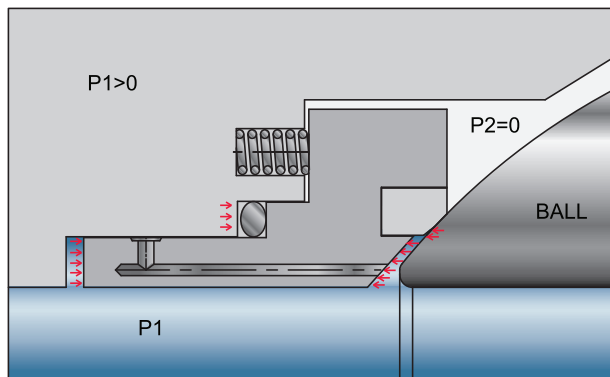
In the standard design of Trunnion Mounted Ball Valves, each seat ring performs the "Single piston" action.

In this case, the pressure acting on the external side of the seat ring results in a force pushing equally against the ball while the pressure acting on the internal side of the seat rings results in a force pushing equally away from the ball. Therefore while both seat rings grant the required tightness when the pressure is applied on their external side, they are "Self Relieving" allowing any excess pressure acting in the body cavity to be discharged in the line as soon as the force caused by the pressure overcomes the one provided by the springs.



Double Piston Effect (Optional)

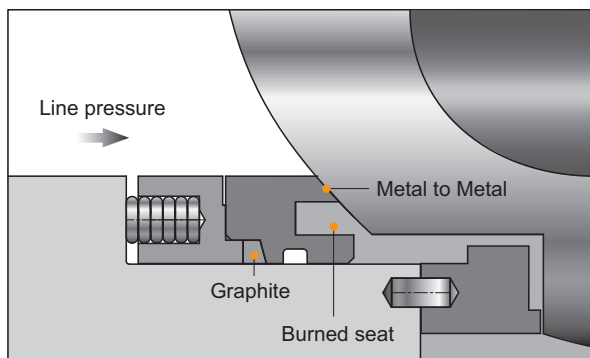
By request, the seat rings design may be modified to perform "Double Piston Effect" action. In this case the pressure acting on both the external and internal side of the seat rings results in a force pushing equally against the ball. Therefore each seat ring allows for the required tightness even if the pressure is applied in the body cavity. This feature adds an extra sealing feature to the valve, but to release the possible excess pressure developed in the body cavity it is necessary to use an external safety relief valve.



Fire Safe Design

A secondary metal seat is provided to maintain contact between the seat and ball in the event the primary non-metallic seat is destroyed by fire. Valves are fire safe by design. The double body and bonnet seals give maximum security.

BMT valves are fitted with special graphite seals so as to effectively stop all leakage in the event of a fire. All BMT trunnion Mounted ball valves are designed Fire Safe to API-607/API-6FA

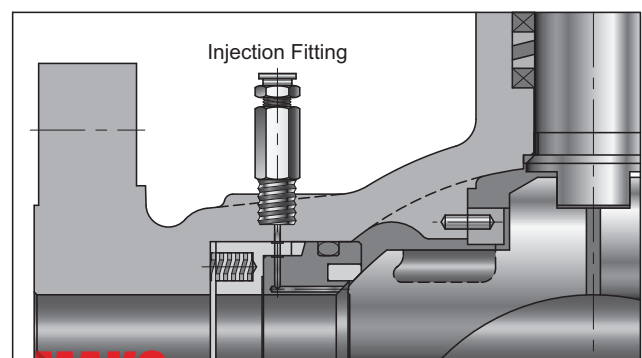


Secondary Seat and Stem Sealing (Optional)

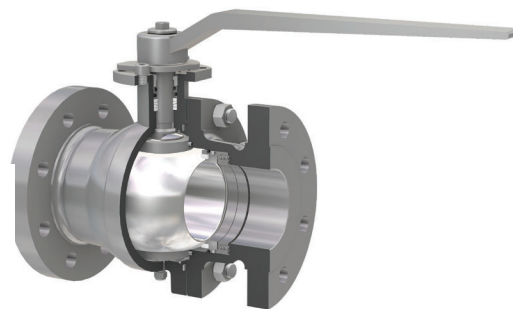
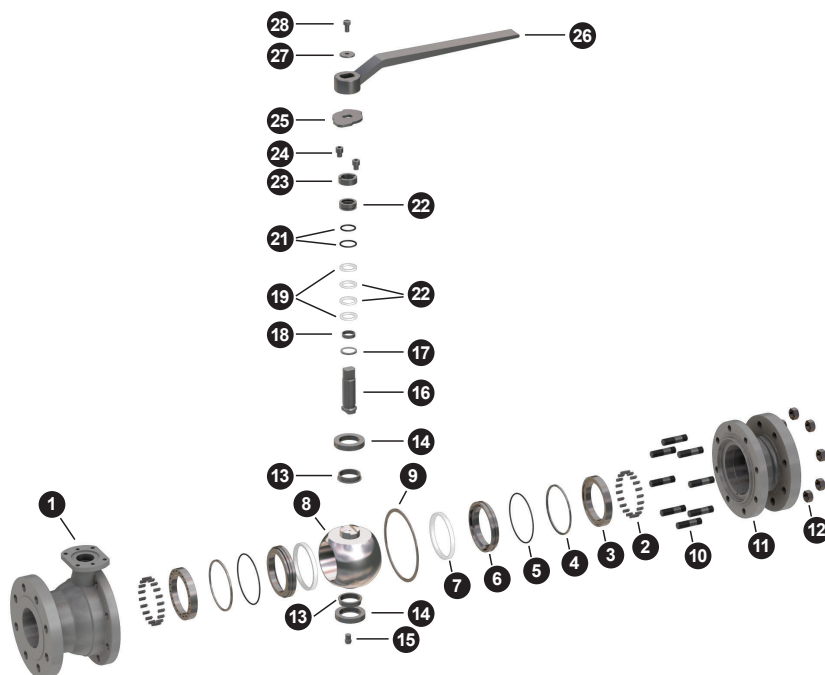
Ball valves are designed to provide high integrity shut-off.

Upon request, sealant injection fittings are installed.

In case of seat insert or stem seal damage, external or internal leakages can occur. An emergency sealant injection can save the integrity of the valve by incorporating a sealant seal around the stem or between the seat and the ball.



2-piece Cast Steel Trunnion Mounted Ball Valve



Features

- Size: 2" ~ 24"
- Class: 150 ~ 600
- Two Pieces Cast Steel Body
- Trunnion Mounted Ball, Full & Reduced Bore
- Anti-Static Device
- Blow-out Proof Stem
- Fire Safe Design
- Emergency Sealant injector (6" & Larger)

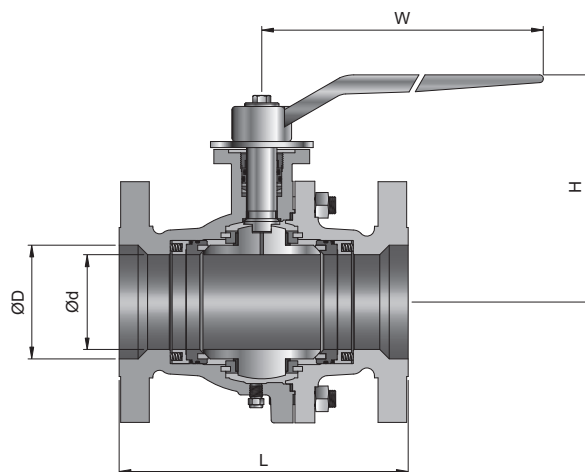
Specifications

- Design: ASME B16.34 / API 6D / ISO 17292
- Face to Face: ASME B16.10 / API 6D
- End Flange: ASME B16.5
- BW End: ASME B16.25
- Test: API 598 / API 6D / BS EN 12266
- Fire Safe Test: API 607 / API 6FA / ISO 10497
- NACE MR-01-75 (Optional)

Materials of Construction

NO.	COMPONENT	MATERIAL	
		STAINLESS STEEL	CARBON STEEL
1	BODY	ASTM A351-CF8M	ASTM A216-WCB
2	SPRING	Inconel X-750	Inconel X-750
3	GASKER RETAINER	ASTM A276-TP316	ASTM A276-TP316
4	RETAINER SEAL	PTFE/GRAPHITE	PTFE/GRAPHITE
5	RETAINER O-RING	VITON	VITON
6	SEAT RETAINER	ASTM A276-TP316	ASTM A276-TP316
7	SEAT	R.PTFE/NYLON	R.PTFE/NYLON
8	BALL	ASTM A351-CF8M	ASTM A351-CF8M
9	BODY GASKET	PTFE/SWG(SS316+GRAPHITE)	PTFE/SWG(SS316+GRAPHITE)
10	STUD BOLT	ASTM A193-B8M	ASTM A193-B7
11	BODY CAP	ASTM A351-CF8M	ASTM A216-WCB
12	NUT	ASTM A194-8M	ASTM A194-2H
13	TRUNNION BEARING	R.PTFE	R.PTFE
14	TRUNNION PLATE	ASTM A276-TP316	ASTM A276-TP316
15	DRAIN PLUG	ASTM A276-TP316	Carbon Steel
16	STEM	ASTM A276-TP316	ASTM A276-TP316
17	THRUST WASHER	PEEK	PEEK
18	THRUST BEARING	R.PTFE	R.PTFE
19	PACKING GLAND	ASTM A276-TP316	ASTM A276-TP316
20	PACKING	PTFE/GRAPHITE	PTFE/GRAPHITE
21	O-RING	VITON	VITON
22	STEM SEAL RETAINER	ASTM A276-TP316	ASTM A105
23	GLAND	ASTM A276-TP316	ASTM A105
24	STOP BOLT	ASTM A193-B8	ASTM A193-B7
25	STOPPER	STAINLESS STEEL	Carbon Steel
26	HANDLE	STAINLESS STEEL	Carbon Steel
27	PLAIN WASHER	STAINLESS STEEL	Carbon Steel
28	HANDLE BOLT	ASTM A193-B8	ASTM A193-B7

Table of Dimensions



Full Bore

Class150

Size (inch)	ØD	L	H	W	Weight (Kg)
2	50	178	144	250	18
3	76	203	194	460	32
4	100	229	210	460	56
6	152	394	286	*400	125
8	203	457	338	*500	195
10	254	533	387	*500	270
12	305	610	450	*600	470
14	337	686	498	*700	570
16	387	762	550	*700	875
18	438	864	615	*800	935
20	489	914	647	*800	1520
24	591	1067	751	*900	2150

*Gear Operated

Class300

Size (inch)	ØD	L	H	W	Weight (Kg)
2	50	216	144	250	26
3	76	283	194	460	45
4	100	305	210	460	75
6	152	403	286	*400	152
8	203	502	338	*500	234
10	254	568	387	*500	303
12	305	648	450	*600	502
14	337	762	498	*700	602
16	387	838	550	*700	1001
18	438	914	615	*700	1155
20	489	991	647	*800	1815
24	591	1143	751	*900	2550

*Gear Operated

Class600

Size (inch)	ØD	L	H	W	Weight (Kg)
2	50	292	144	250	27
3	76	356	194	*250	53
4	100	432	235	*300	93
6	152	559	300	*500	200
8	203	660	360	*600	340
10	254	787	430	*700	550
12	305	838	468	*700	785
14	337	889	550	*800	850
16	387	991	615	*900	1580
18	438	1092	724	*900	2170
20	489	1194	810	*900	2630
24	591	1397	1010	*900	3950

*Gear Operated

Reduced Bore

Class150

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3 × 2	50	76	203	144	250	26
4 × 3	76	100	229	194	460	50
6 × 4	100	152	394	210	460	118
8 × 6	152	203	457	286	*400	150
10 × 8	203	254	533	338	*500	230
12 × 10	254	305	610	387	*500	278
14 × 12	305	337	686	450	*600	460
16 × 14	337	387	762	498	*700	585
18 × 16	387	438	864	550	*700	890
20 × 18	438	489	914	615	*800	955
24 × 20	489	591	1067	647	*800	1650

*Gear Operated

Class300

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3 × 2	50	76	283	144	250	35
4 × 3	76	100	305	194	460	65
6 × 4	100	152	403	210	460	135
8 × 6	152	203	502	286	*400	200
10 × 8	203	254	568	338	*500	290
12 × 10	254	305	648	387	*500	310
14 × 12	305	337	762	450	*600	520
16 × 14	337	387	838	498	*700	820
18 × 16	387	438	914	550	*700	1025
20 × 18	438	489	991	615	*800	1180
24 × 20	489	591	1143	647	*800	1950

*Gear Operated

Class600

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3 × 2	50	76	356	144	250	43
4 × 3	76	100	432	194	*250	67
6 × 4	100	152	559	235	*300	98
8 × 6	152	203	660	300	*400	205
10 × 8	203	254	787	360	*500	350
12 × 10	254	305	838	430	*700	605
14 × 12	305	337	889	468	*700	820
16 × 14	337	387	991	550	*800	980
18 × 16	387	438	1092	615	*900	1805
20 × 18	438	489	1194	724	*900	2480
24 × 20	489	591	1397	810	*900	3800

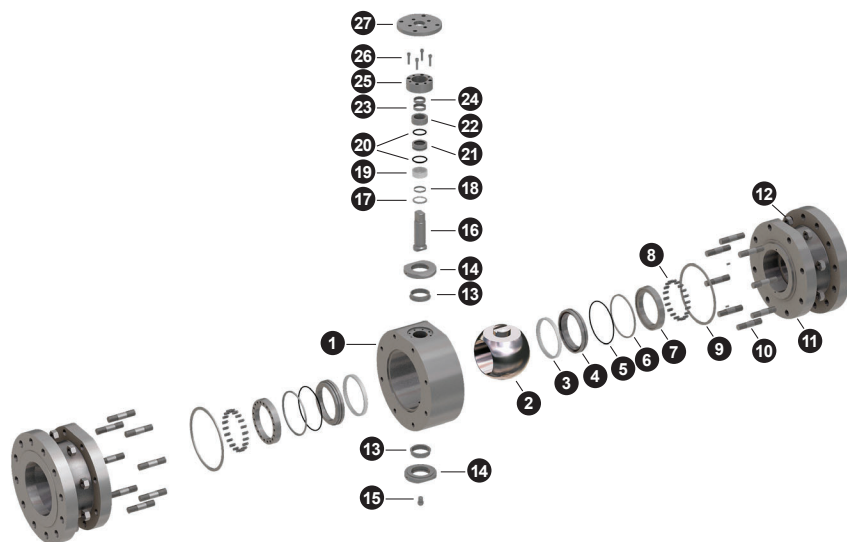
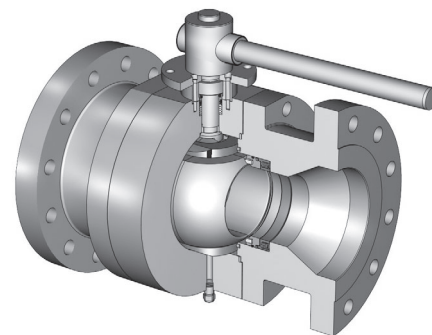
*Gear Operated

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- Sizes, pressure classes, and end connections not listed are available upon request.

3-piece Forged Steel Trunnion Mounted Ball Valve



Features

- Size: 2" ~ 24"
- Class: 150 ~ 2500
- Three Pieces Forged Steel Body
- Trunnion Mounted Ball, Full & Reduced Bore
- Anti-Static Device
- Blow-out Proof Stem
- Double Block Bleed
- Fire Safe Design
- Emergency Sealant injector (6" & Larger)
- Vent Valve (6" & Larger)
- Lifting Lugs & Supporting Feet (8" & Larger)

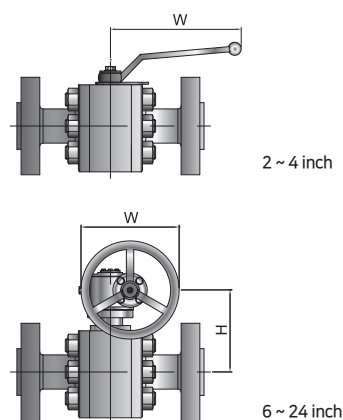
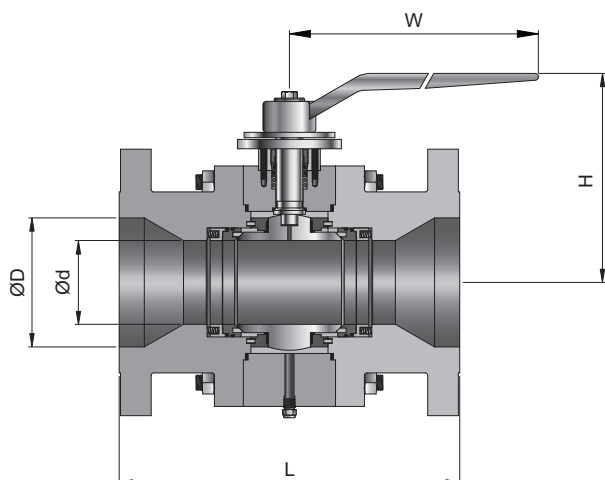
Specifications

- Design: ASME B16.34 / API 6D
- Face to Face: ASME B16.10 / API6D
- End Flange: ASME B16.5
- Test: API 6D
- Fire Safe Test: API 607 / API 6FA
- NACE MR-01-75 (Optional)

Materials of Construction

NO.	COMPONENT	MATERIAL	
		STAINLESS STEEL	CARBON STEEL
1	BODY	ASTM A182-F316	ASTM A105
2	BALL	ASTM A182-F316/A276-TP316	ASTM A182-F316/A105+ENP
3	SEAT	PTFE/DEVLON/NYLON	PTFE/DEVLON/NYLON
4	SEAT RETAINER	ASTM A276-TP316	ASTM A276-TP316
5	RETAINER O-RING	VITON	VITON
6	RETAINER SEAL	PTFE/GRAPHITE	PTFE/GRAPHITE
7	GASKER RETAINER	ASTM A276-TP316	ASTM A276-TP316
8	SPRING	INCONEL X-750	INCONEL X-750
9	BODY GASKET	PTFE/SWG(SS316+GRAPHITE)	PTFE/SWG(SS316+GRAPHITE)
10	STUD BOLT	ASTM A193-B8M	ASTM A193-B7
11	BODY CAP	ASTM A182-F316	ASTM A105
12	NUT	ASTM A194-8M	ASTM A194-2H
13	TRUNNION BEARING	R.PTFE	R.PTFE
14	TRUNNION PLATE	ASTM A276-TP316	ASTM A276-TP316
15	DRAIN PLUG	ASTM A276-TP316	CARBON STEEL
16	STEM	ASTM A564-TP630	ASTM A564-TP630/AISI4140+ENP
17	THRUST WASHER	PEEK	PEEK
18	THRUST BEARING	R.PTFE	R.PTFE
19	BUSHING	PEEK	PEEK
20	PACKING GLAND	ASTM A276-TP316	ASTM A276-TP316
21	STEM PACKING	PTFE/GRAPHITE	PTFE/GRAPHITE
22	O-RING RETAINER	ASTM A276-TP316	ASTM A105
23	O-RING	VITON	VITON
24	O-RING	VITON	VITON
25	BONNET	ASTM A276-TP316	ASTM A105
26	BOLT	ASTM A193-B8M	ASTM A193-B7
27	GEARBOX BASE	ASTM A276-TP316	ASTM A105

Table of Dimensions



Full Bore

Class150

Size (inch)	ØD	L	H	W	Weight (Kg)
2	50	178	180	265	30
3	76	203	190	285	60
4	100	229	212	285	92
6	152	394	277	*400	190
8	203	457	301	*400	345
10	254	533	359	*500	495
12	305	610	419	*600	705
14	337	686	460	*600	859
16	387	762	494	*600	1020
18	438	864	521	*600	1440
20	489	914	656	*600	1918
24	591	1067	795	*700	2803

*Gear Operated

Reduced Bore

Class150

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
2 × 1-1/2	38	50	178	140	250	26
3 × 2	50	76	203	180	265	34
4 × 3	76	100	229	190	285	62
6 × 4	100	152	394	212	285	102
8 × 6	152	203	457	277	*400	225
10 × 8	203	254	533	301	*400	373
12 × 10	254	305	610	359	*500	533
14 × 12	305	337	686	419	*600	730
16 × 14	337	387	762	460	*600	790
18 × 16	387	438	864	494	*600	1095
20 × 18	438	489	914	521	*600	1152
24 × 20	489	591	1067	656	*600	2060

*Gear Operated

Class300

Size (inch)	ØD	L	H	W	Weight (Kg)
2	50	216	180	265	31
3	76	283	190	285	69
4	100	305	212	400	11
6	152	403	277	*400	211
8	203	502	308	*500	376
10	254	568	381	*600	540
12	305	648	429	*600	763
14	337	762	460	*600	900
16	387	838	581	*600	1300
18	438	914	674	*700	1715
20	489	991	713	*700	2090
24	591	1143	850	*760	2890

*Gear Operated

Class300

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
2 × 1-1/2	38	50	216	140	250	30
3 × 2	50	76	283	180	265	37
4 × 3	76	100	305	190	285	74
6 × 4	100	152	403	212	400	142
8 × 6	152	203	502	277	*400	253
10 × 8	203	254	598	308	*500	410
12 × 10	254	305	648	381	*600	580
14 × 12	305	337	762	429	*600	830
16 × 14	337	387	838	460	*600	970
18 × 16	387	438	914	581	*600	1530
20 × 18	438	489	991	674	*700	1830
24 × 20	489	591	1143	713	*700	2220

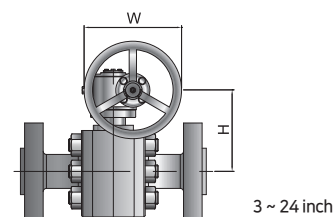
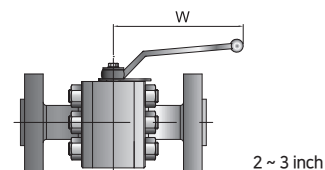
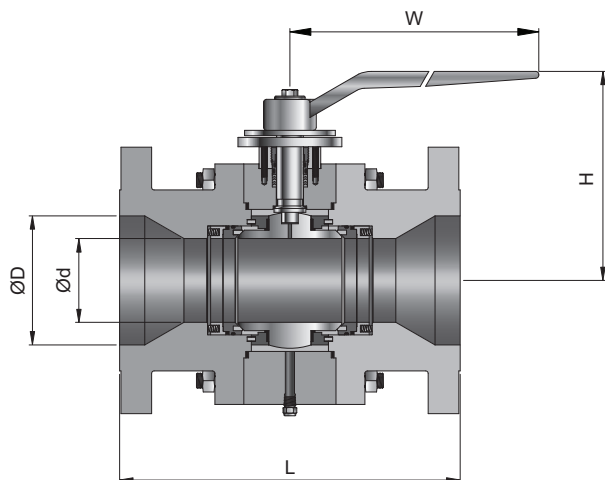
*Gear Operated

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Table of Dimensions



Full Bore

Class600

Size (inch)	ØD	L	H	W	Weight (Kg)
2	51	292	172	285	45
3	76	356	205	*250	80
4	102	432	308	*300	150
6	152	559	274	*500	248
8	203	660	342	*600	438
10	254	787	393	*600	701
12	305	838	522	*600	925
14	337	889	551	*600	1230
16	387	991	637	*700	1535
18	438	1092	683	*800	2135
20	489	1194	719	*800	2640
24	591	1397	823	*800	3960

*Gear Operated

Reduced Bore

Class600

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
2 × 1-1/2	38	51	292	164	265	40
3 × 2	51	76	356	172	285	54
4 × 3	76	102	432	205	*250	99
6 × 4	102	152	559	308	*300	212
8 × 6	152	203	660	274	*500	304
10 × 8	203	254	787	342	*600	510
12 × 10	254	305	838	393	*600	902
14 × 12	305	337	889	522	*600	1090
16 × 14	337	387	991	551	*600	1310
18 × 16	387	438	1092	637	*700	1640
20 × 18	438	489	1194	683	*800	2270
24 × 20	489	591	1397	719	*800	3440

*Gear Operated

Class900

Size (inch)	ØD	L	H	W	Weight (Kg)
3	76	381	302	*300	87
4	102	457	332	*400	160
6	152	610	345	*630	385
8	203	737	395	*710	560
10	254	838	463	*710	820
12	305	965	509	*710	1125
14	324	1029	528	*800	1610
16	406	1130	634	*900	2540
18	457	1219	689	*900	2820
20	508	1321	742	*1000	4770

*Gear Operated

Class900

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
3 × 2	51	76	381	193	*250	56
4 × 3	76	102	457	302	*300	94
6 × 4	102	152	610	332	*400	226
8 × 6	152	203	737	345	*630	480
10 × 8	203	254	838	395	*710	650
12 × 10	254	305	965	463	*710	868
14 × 12	305	324	1029	509	*710	1310
16 × 14	356	406	1130	528	*800	1820
18 × 16	406	457	1219	634	*900	2500
20 × 18	457	508	1321	689	*900	3250

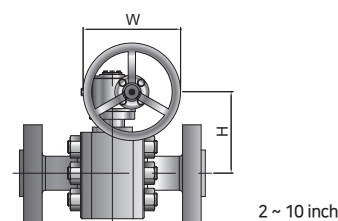
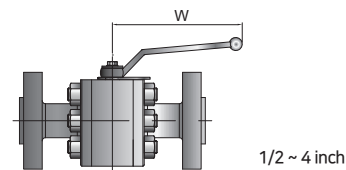
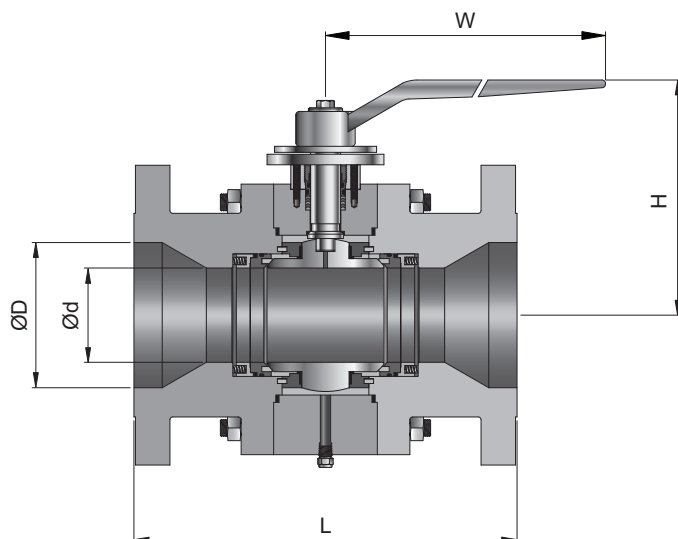
*Gear Operated

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- Unless otherwise specified, all dimensions are in millimeters.

- Sizes, pressure classes, and end connections not listed are available upon request.

Table of Dimensions



Full Bore

Class1500

Size (inch)	ØD	L	H	W	Weight (Kg)
2	50	368	193	*300	60
3	76	470	270	*400	115
4	100	546	275	*500	194
6	146	705	325	*600	580
8	194	832	501	*700	758
10	241	991	536	*700	1195
12	289	1130	614	*800	1970
14	318	1257	662	*800	2250
16	362	1384	700	*800	2760

*Gear Operated

Reduced Bore

Class1500

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
2 × 1-1/2	38	50	368	183	285	56
3 × 2	50	76	470	193	*300	82
4 × 3	76	100	546	270	*400	150
6 × 4	100	146	705	275	*500	295
8 × 6	146	194	832	325	*600	690
10 × 8	194	241	991	501	*700	930
12 × 10	241	289	1130	536	*700	1340
14 × 12	289	318	1257	614	*800	2070
16 × 14	318	362	1384	662	*800	2470

*Gear Operated

Class2500

Size (inch)	ØD	L	H	W	Weight (Kg)
2	44	451	230	*400	90
3	64	578	284	*500	200
4	89	673	303	*500	385
6	133	914	394	*600	778
8	181	1022	488	*760	1352
10	225	1270	600	*760	2137
12	267	1422	872	*760	3267

*Gear Operated

Class2500

Size (inch)	Ød	ØD	L	H	W	Weight (Kg)
2 × 1-1/2	38	44	454	170	400	80
3 × 2	44	64	584	230	*400	160
4 × 3	64	89	683	284	*500	320
6 × 4	89	133	927	303	*500	640
8 × 6	133	181	1038	360	*600	1170
10 × 8	181	225	1292	420	*760	1919
12 × 10	225	267	1445	509	*760	2972

*Gear Operated

- 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.

Ordering Information

Example :

FB2F 2 2 - R 12 C - A031 - AB

1 2 3 4 5 6 7 8 9 10 11

1. Valve Series

- ☐ **FB1C** = Floating 1-Piece Casting
- ☐ **FB2C** = Floating 2-Piece Casting
- ☐ **FB3C** = Floating 3-Piece Casting
- ☐ **FB1F** = Floating 1-Piece Forged
- ☐ **FB2F** = Floating 2-Piece Forged
- ☐ **FB3F** = Floating 3-Piece Forged
- ☐ **FBT2C** = Trunnion 2-Piece Casting
- ☐ **FBT3C** = Trunnion 3-Piece Casting
- ☐ **FBT2F** = Trunnion 2-Piece Forged
- ☐ **FBT3F** = Trunnion 3-Piece Forged

2. Valve Type

- ☐ **1** = Flange x F.NPT
- ☐ **2** = Flange x Flange
- ☐ **3** = M.NPT x F.NPT
- ☐ **4** = F.NPT x F.NPT
- ☐ **5** = Pipe x F.NPT
- ☐ **6** = SW x F.NPT
- ☐ **7** = BW x F.NPT
- ☐ **8** = Pipe x Flange
- ☐ **9** = M.NPT x Flange
- ☐ **0** = SW x SW
- ☐ **B** = BW x BW

3. Bore

- ☐ **(Blank)** = 10 mm
- ☐ **1** = 15 mm
- ☐ **2** = 20 mm
- ☐ **3** = 25 mm
- ☐ **4** = 32 mm
- ☐ **5** = 38 mm
- ☐ **6** = 50 mm
- ☐ **7** = 65 mm
- ☐ **8** = 80 mm
- ☐ **9** = 100 mm
- ☐ **10** = 125 mm
- ☐ **11** = 150 mm
- ☐ **12** = 200 mm
- ☐ **13** = 250 mm
- ☐ **14** = 300 mm
- ☐ **15** = 335 mm
- ☐ **16** = 385 mm
- ☐ **17** = 435 mm
- ☐ **18** = 485 mm
- ☐ **19** = 535 mm
- ☐ **20** = 590 mm
- ☐ **21** = 640 mm
- ☐ **22** = 690 mm
- ☐ **23** = 740 mm

4. Connection

- ☐ **R** = RF
- ☐ **J** = RTJ
- ☐ **F** = FF
- ☐ **AF** = API 6B
- ☐ **JF** = JIS FLANGE
- ☐ **SA** = SAE J518
- ☐ **IS** = ISO 6164
- ☐ **JO** = JIS OIL

5. Size

- ☐ **4** = 1/4"
- ☐ **6** = 3/8"
- ☐ **8** = 1/2"
- ☐ **12** = 3/4"
- ☐ **16** = 1"
- ☐ **20** = 1-1/4"
- ☐ **24** = 1-1/2"
- ☐ **32** = 2"
- ☐ **40** = 2-1/2"
- ☐ **48** = 3"
- ☐ **64** = 4"
- ☐ **80** = 5"
- ☐ **96** = 6"
- ☐ **128** = 8"
- ☐ **160** = 10"
- ☐ **192** = 12"
- ☐ **224** = 14"
- ☐ **256** = 16"
- ☐ **288** = 18"
- ☐ **320** = 20"
- ☐ **352** = 22"
- ☐ **384** = 24"
- ☐ **416** = 26"
- ☐ **448** = 28"
- ☐ **480** = 30"

6. Pressure

- ☐ **A** = Class 150
- ☐ **B** = Class 300
- ☐ **C** = Class 600
- ☐ **D** = Class 900
- ☐ **E** = Class 1500
- ☐ **F** = Class 2500
- ☐ **S** = Class 800
- ☐ **G** = 2000 PSI
- ☐ **H** = 3000 PSI
- ☐ **I** = 5000 PSI
- ☐ **W** = 6000 PSI
- ☐ **J** = 10000 PSI
- ☐ **K** = 15000 PSI
- ☐ **L** = 20000 PSI
- ☐ **M** = JIS 5K
- ☐ **N** = JIS 10K
- ☐ **P** = JIS 16K
- ☐ **Q** = JIS 20K
- ☐ **R** = JIS 30K
- ☐ **T** = JIS 210K
- ☐ **U** = JIS 280K
- ☐ **V** = JIS 350K

7. Option

- ☐ **A** = Standard
- ☐ **D** = Locking Device
- ☐ **G** = Gear Actuator
- ☐ **H** = Metal Seat
- ☐ **M** = Welded Overlay
- ☐ **O** = Lifting Lug
- ☐ **P** = Pneumatic Actuator

8. Trim

- ☐ **0** = Same material as the body
- ☐ **1** = SS316
- ☐ **2** = CF8M
- ☐ **3** = SS316L
- ☐ **4** = SS304
- ☐ **5** = A105+ENP
- ☐ **6** = A105+CR
- ☐ **7** = MONEL 400
- ☐ **8** = SS316+HF
- ☐ **9** = DUPLEX

9. Seat

- ☐ **0** = PTFE
- ☐ **1** = RTFE (G)
- ☐ **2** = RTFE (C)
- ☐ **3** = PEEK
- ☐ **4** = PCTFE
- ☐ **5** = POM
- ☐ **6** = DEVLON
- ☐ **7** = DELIN
- ☐ **8** = METAL
- ☐ **9** = NYLON 6

10. O-ring

- ☐ **0** = NBR
- ☐ **1** = VITON
- ☐ **2** = EPDM
- ☐ **3** = KALREZ
- ☐ **4** = CR
- ☐ **5** = SILICON
- ☐ **6** = AED(NBR)
- ☐ **7** = AED(VITON)
- ☐ **8** = HNBR
- ☐ **9** = MSNBR

11. Material

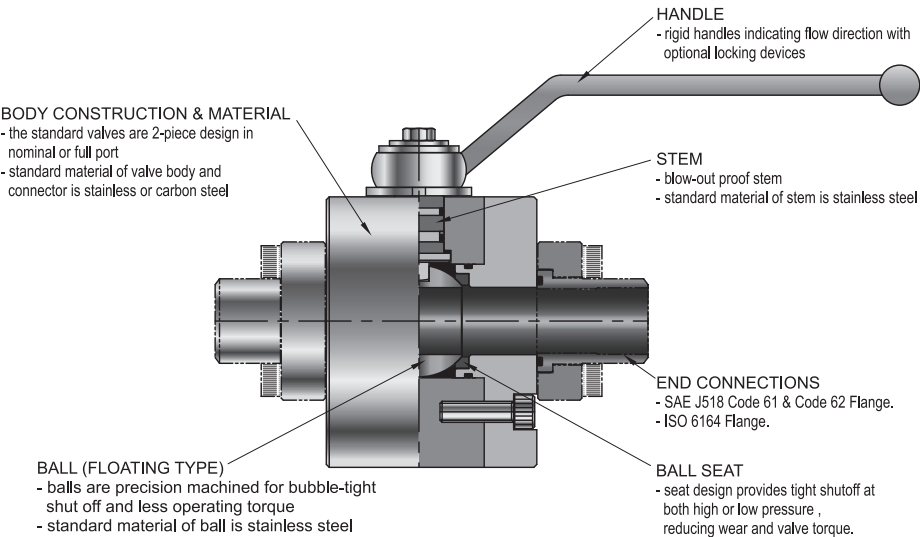
- ☐ **(Blank)** = SS316
- ☐ **304** = SS304
- ☐ **36L** = SS316L
- ☐ **34L** = SS304L
- ☐ **F51** = Duplex
- ☐ **F53** = Super Duplex
- ☐ **B** = Brass
- ☐ **BZ** = Bronze
- ☐ **AB** = AB
- ☐ **M40** = M40
- ☐ **625** = Inconel 625
- ☐ **825** = Inconel 825
- ☐ **276** = HASTELLOY
- ☐ **15** = A105
- ☐ **15N** = A105N
- ☐ **LF2** = A350 LF2

SAE J518 & ISO 6164 Flanged Ball Valves

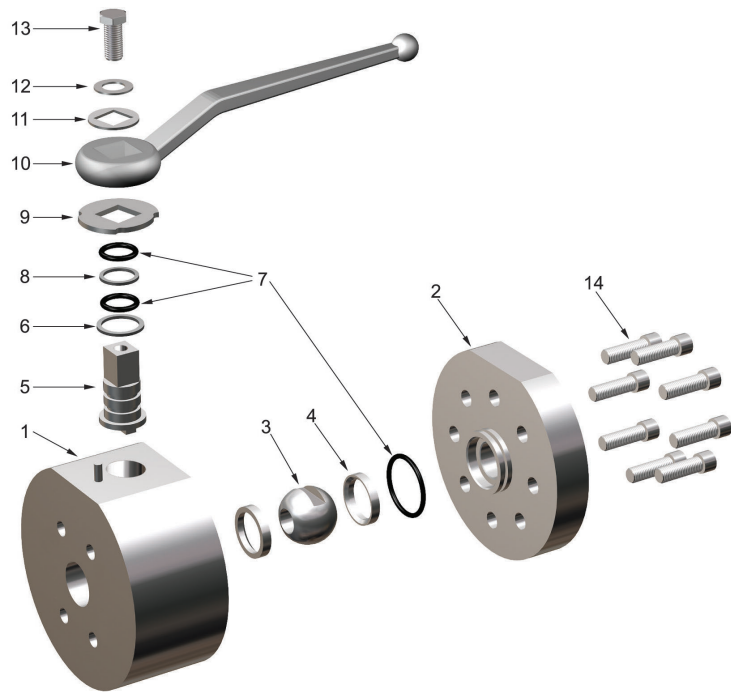
SBVE Series

Features

- Dual pattern Code 61 & 62
- Compact design
- Blow out proof stem
- Fire safety design
 - API 607 / BS 6755 PART 2
- End connection
 - SAE J518 Code 61 & 62 Flanged
 - ISO 6164 Flanged
- Pressure Rating
 - SAE J518 CODE 61 : 3000psi
 - SAE J518 CODE 62 : 6000psi
 - ISO 6164 : PN250, PN400
- Temperature range
 - -20°C ~ 180°C



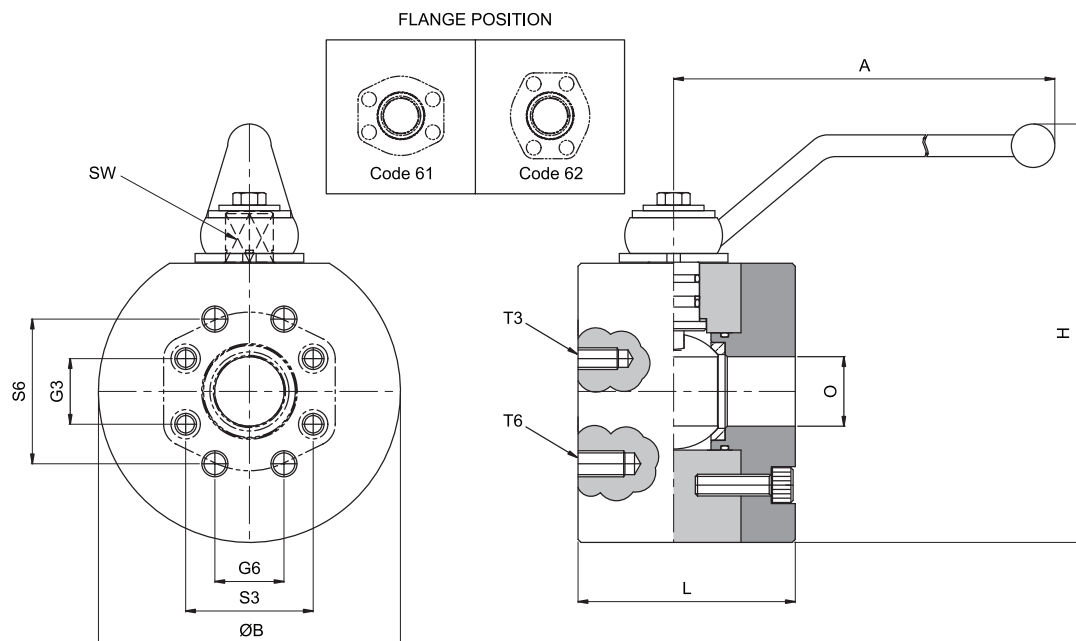
Materials of Construction



NO.	COMPONENT	MATERIAL
1	BODY	A182 F316 / A105+Zinc plated
2	BODY CAP	A182 F316 / A105+Zinc plated
3	BALL	A479 TP316
4	BALL SEAT	PEEK / DEVLON
5	STEM	A479 TP316 / A564 TP630
6	THRUST WASHER	PEEK
7	O-RING	VITON
8	BACKUP RING	PTFE
9	LOCKING DEVICE	Stainless Steel
10	HANDLE	Stainless Steel / Carbon Steel
11	STEM WASHER	A276 TP316
12	WASHER	Stainless Steel
13	STEM BOLT	Stainless Steel
14	BODY BOLT	Stainless Steel / Carbon Steel

SBVE to SAE 30/60

Table of dimensions



SAE J518 CODE 61 (3000psi)

Part No.	Nominal Flange Size (inch)	DN	Nominal Working Pressure (bar)	O	A	ØB	H	L	T3 METRIC (UNC)	S3	G3	SW
SBVE - 15 - SAE30	1/2	15	210	15	160	78	130	75	M8 (5/16" UNC)	38.10	17.48	12
SBVE - 20 - SAE30	3/4	20	210	19	200	98	155	80	M10 (3/8" UNC)	47.63	22.23	14
SBVE - 25 - SAE30	1	25	210	25	200	118	170	88	M10 (3/8" UNC)	52.37	26.19	14
SBVE - 32 - SAE30	1-1/4	32	210	32	250	145	205	100	M10 (7/16" UNC)	58.72	30.18	17
SBVE - 40 - SAE30	1-1/2	40	210	38	250	165	230	110	M12 (1/2" UNC)	69.85	35.71	17
SBVE - 50 - SAE30	2	50	210	48	300	198	255	116	M12 (1/2" UNC)	77.77	42.88	19
SBVE - 65 - SAE30	2-1/2	65	210	63	300	198	260	150	M12 (1/2" UNC)	88.90	50.80	19
SBVE - 80 - SAE30	3	80	210	76	350	210	280	180	M16 (5/8" UNC)	106.38	61.93	24
SBVE - 100 - SAE30	4	100	210	88	400	258	345	200	M16 (5/8" UNC)	130.18	77.77	24

SAE J518 CODE 62 (6000psi)

Part No.	Nominal Flange Size (inch)	DN	Nominal Working Pressure (bar)	O	A	ØB	H	L	T6 METRIC (UNC)	S6	G6	SW
SBVE - 15 - SAE60	1/2	15	420	13	160	78	130	75	M8 (5/16" UNC)	40.49	18.24	12
SBVE - 20 - SAE60	3/4	20	420	19	200	98	155	80	M10 (3/8" UNC)	50.80	23.80	14
SBVE - 25 - SAE60	1	25	420	25	200	118	170	88	M12 (7/16" UNC)	57.15	27.76	14
SBVE - 32 - SAE60	1-1/4	32	420	32	250	145	205	100	M14 (1/2" UNC)	66.68	31.75	17
SBVE - 40 - SAE60	1-1/2	40	420	38	250	165	230	120	M16 (5/8" UNC)	79.38	36.50	17
SBVE - 50 - SAE60	2	50	420	43	300	198	255	130	M20 (3/4" UNC)	96.82	44.45	19
SBVE - 65 - SAE60	2-1/2	65	420	60	300	198	260	150	M24 (1" UNC)	123.80	58.80	19
SBVE - 80 - SAE60	3	80	420	63	350	210	280	180	M30 (1-1/8" UNC)	152.40	71.60	24

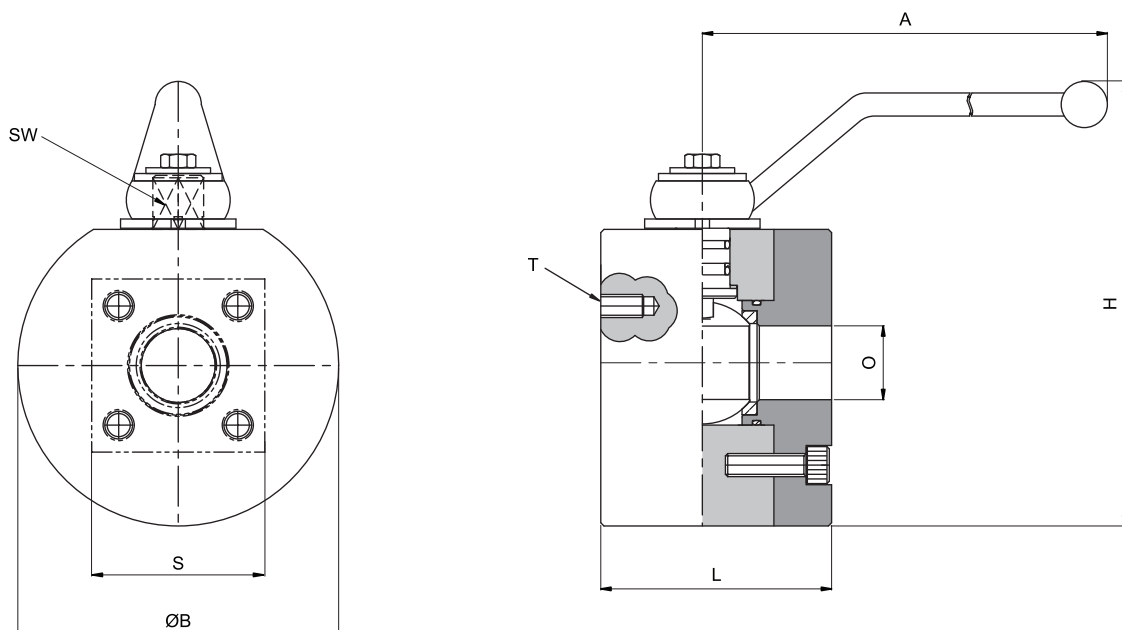
- Dimensions and Drawings are for reference only and are subject to change without prior notice.

- Unless otherwise specified, all dimensions are in millimeters.

- Sizes, pressure classes, and end connections not listed are available upon request.

SBVE to ISO 25/40

Table of dimensions



ISO 6164-2 (250bar)

Part No.	Nominal Flange Size (inch)	DN	Nominal Working Pressure (bar)	O	A	ØB	H	L	T METRIC (UNC)	S	SW
SBVE - 15 - ISO25	1/2	15	250	15	160	79	130	75	M10 (3/8" UNC)	60	12
SBVE - 20 - ISO25	3/4	20	250	19	200	99	155	80	M12 (7/16" UNC)	70	14
SBVE - 25 - ISO25	1	25	250	25	200	118	170	88	M12 (7/16" UNC)	80	14
SBVE - 32 - ISO25	1-1/4	32	250	32	250	139	205	100	M16 (5/8" UNC)	90	17
SBVE - 40 - ISO25	1-1/2	40	250	38	250	160	230	110	M16 (5/8" UNC)	90	17
SBVE - 50 - ISO25	2	50	250	48	300	179	255	116	M16 (5/8" UNC)	100	19

ISO 6164-2 (400bar)

Part No.	Nominal Flange Size (inch)	DN	Nominal Working Pressure (bar)	O	A	ØB	H	L	T METRIC (UNC)	S	SW
SBVE - 15 - ISO40	1/2	15	400	13	160	79	130	75	M10 (3/8" UNC)	60	12
SBVE - 20 - ISO40	3/4	20	400	19	200	99	155	80	M10 (3/8" UNC)	60	14
SBVE - 25 - ISO40	1	25	400	25	200	119	170	88	M12 (7/16" UNC)	70	14
SBVE - 32 - ISO40	1-1/4	32	400	32	250	139	205	100	M12 (7/16" UNC)	80	17
SBVE - 40 - ISO40	1-1/2	40	400	38	250	160	230	120	M16 (5/8" UNC)	90	17
SBVE - 50 - ISO40	2	50	400	43	300	179	255	130	M16 (5/8" UNC)	100	19

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- Unless otherwise specified, all dimensions are in millimeters.

- Sizes, pressure classes, and end connections not listed are available upon request.

Ordering Information

Example :

SBVE - 15 - SAE30 - N - C

1 2 3 4 5

1. Connection Size

Size (inch)	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5
Designator	15	20	25	32	40	50	65	80	100	125

2. Connection Type

- ☐ **SAE** = SAE J518 Code 61 / 62
- ☐ **ISO** = ISO 6164 - 2

3. Nominal Pressure

- ☐ **30** = 3000psi
- ☐ **60** = 6000psi
- ☐ **25** = 250bar
- ☐ **40** = 400bar

4. Stem Seal

- ☐ **(Blank)** = VITON
- ☐ **N** = NBR

5. Body Material

- ☐ **(Blank)** = Stainless Steel
- ☐ **C** = Carbon Steel

SBV120H Ball Valves

One-piece Type

Features

- Simple design with one piece body
- Tight and smooth, low torque and easy operation
- One-piece ball stem
- Panel mountable
- Variety of End Connections
- Straight, Angle and 3-Way flow patterns
- Each and every valve is tested at the factory



Specifications

- Pressure rating : 3000psig (206bar)@70°F (21°C)
- Temperature rating : 50 to 150°F (10 to 65°C) with PTFE seat and packing
- Body material : 316 stainless steel and Brass
- Port Connections : 1/16" to 3/4" and 3mm to 12mm
- Orifice : 0.052 to 0.406 in. (1.3 to 10.3mm)

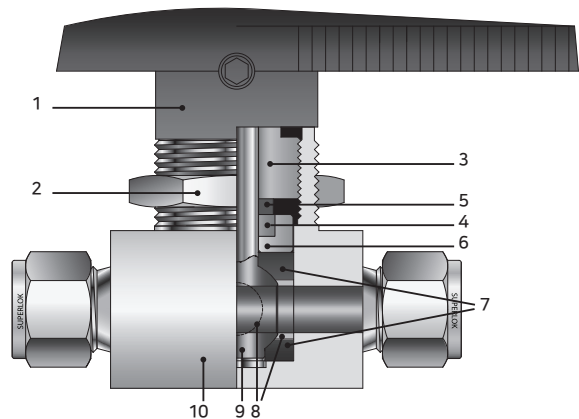
Testing

Each Valve is tested with nitrogen at 1000psig (69bar) to maximum allowable leak rate of 0.1 SCCM.

Packing Adjustment

- Valves are adjusted for factory testing at 1000psig (69bar).
- Packing must be readjusted for service at higher pressures.

Materials of Construction



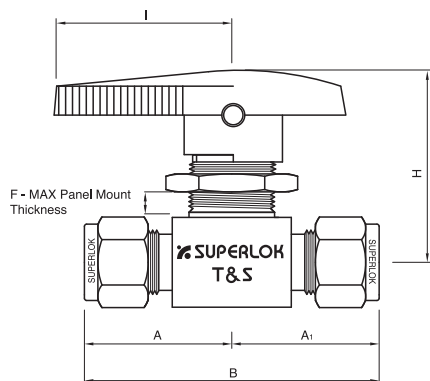
No.	Component	Material Grade / ASTM Specification	
		Stainless Steel	Brass
1	Handle	Nylon	
	Set Screw	Stainless Steel	
2	Panel Nut	Stainless Steel	Brass
3	Packing Bolt	SS316 / A276	Brass / B16
*4	Packing	PTFE	
5	Upper Packing Gland	SS316 / A276	
6	Lower Packing Gland		
*7	Upper&Lower Ball Seat	PTFE	
*8	Side Disc	SS316 - Sintered	
	Side Ring		
*9	Ball Stem	SS316 / A276	
*10	Body	SS316 / A182	Brass / B16

* Wetted components

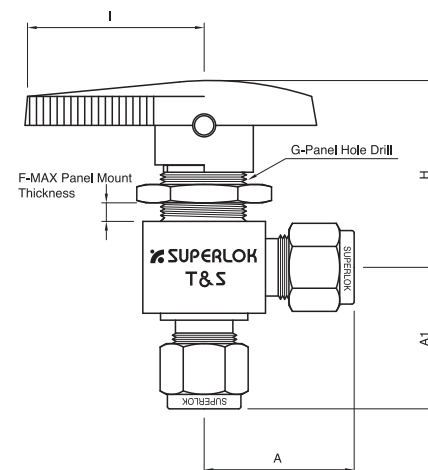
Table of Dimensions

2-Way (On-off Valve)

STRAIGHT TYPE



ANGLE TYPE



Part No.	Orifice	Cv	End Connections		Dimensions									
			Inlet	Outlet	A	A1	B	D	E	F	G	H	I	W
SBV120 H1	S1	1.3	0.1	1/16" SUPERLOK	21.3	21.3	42.6	8.7	8.7	6.4	15.0	36.0	29.0	17.4
	S3M	2.4	0.2	3mm SUPERLOK	25.4	25.4	50.8							
	S2		0.2	1/8" SUPERLOK										
	F2N	3.2	0.5	1/8" FEMALE NPT	20.6	20.6	41.2							
	S6M		0.6	6mm SUPERLOK	27.7	27.7	55.4							
	S4		0.6	1/4" SUPERLOK										
SBV120 H2	F2N	4.8	1.2	1/8" FEMALE NPT	25.4	25.4	50.8	10.0	10.0	4.8	19.8	43.7	38.5	20.0
	F4N		0.9	1/4" FEMALE NPT	26.2	26.2	52.4							
	F4R		0.9	1/4" ISO FEMALE										
	M4N		1.2	1/4" MALE NPT	25.4	25.4	50.8							
	M4N-S4		1.6	1/4" MALE NPT 1/4" SUPERLOK	25.4	30.2	55.6							
	S6M		1.4	6mm SUPERLOK	30.2	30.2	60.4							
	S4		1.4	1/4" SUPERLOK										
	S8M		1.5	8mm SUPERLOK	31.0	31.0	62.0							
	S6		1.5	3/8" SUPERLOK	32.5	32.5	65.0							
SBV120 H3	F4N	7.1	3.0	1/4" FEMALE NPT	31.8	31.8	63.6	14.3	14.2	9.4	28.5	56.1	51.0	28.5
	F6N		2.6	3/8" FEMALE NPT										
	F6R		2.6	3/8" ISO FEMALE										
	S6		6.0	3/8" SUPERLOK										
	S10M		6.0	10mm SUPERLOK	38.9	38.9	77.8							
SBV120 H4	F8N	10.3	6.3	1/2" FEMALE NPT	39.6	39.6	79.2	17.5	17.5	9.4	38.1	71.8	75.0	39.0
	F8R		6.3	1/2" ISO FEMALE										
	S12M		12.0	12mm SUPERLOK										
	S8		12.0	1/2" SUPERLOK										
	S12		6.4	3/4" SUPERLOK	50.0	50.0	100							

- Dimensions and Drawings are for reference only and are subject to change without prior notice.

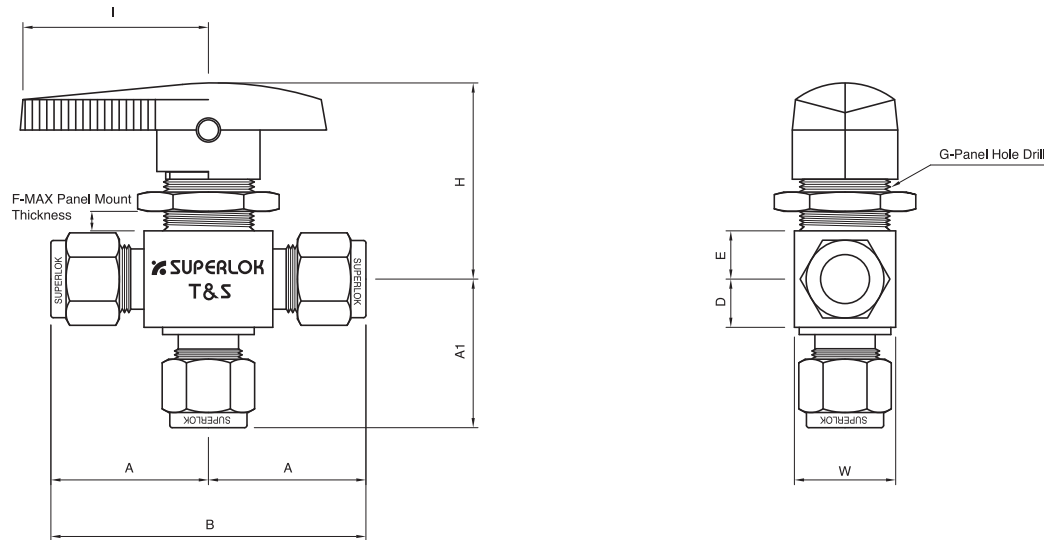
- Unless otherwise specified, all dimensions are in millimeters.

- Sizes, pressure classes, and end connections not listed are available upon request.

- Dimensions shown with SUPERLOK nuts finger-tight, where applicable.

Table of Dimensions

3-Way (Switching Valve)



Part No.		Orifice	Cv	End Connections		Dimensions																
				Inlet	Outlet	A	A1	B	D	E	F	G	H	I	W							
SBV120 H13	S1	1.3	0.08	1/16" SUPERLOK		21.3	20.6	42.6	8.7	8.7	6.4	15.0	36.0	29.0	17.4							
	S3M	2.4	0.15	3mm SUPERLOK		25.4	24.6	50.8														
	S2		0.15	1/8" SUPERLOK																		
	F2N	3.2	0.3	1/8" FEMALE NPT		20.6	20.6	41.2														
	S6M		0.35	6mm SUPERLOK		27.7	26.9	55.4														
	S4		0.35	1/4" SUPERLOK																		
SBV120 H23	F4N	4.8	0.75	1/4" FEMALE NPT		26.2	26.2	52.4	10.0	10.0	4.8	19.8	43.7	38.5	21							
	F4R			1/4" ISO FEMALE																		
	M4N-S4		0.8	1/4" MALE NPT	1/4" SUPERLOK	25.4	30.2	55.6														
	S6M		0.9	6mm SUPERLOK		30.2	30.2	60.4														
	S4			1/4" SUPERLOK																		
	S8M		0.8	8mm SUPERLOK		31.0	31.0	62.0														
SBV120 H33	F4N	7.1	1.7	1/4" FEMALE NPT		31.8	31.8	63.6	14.3	14.2	9.4	28.5	56.1	51.0	28.5							
	F6N		1.5	3/8" FEMALE NPT																		
	F6R			3/8" ISO FEMALE																		
	S6		2.0	3/8" SUPERLOK		38.9	38.9	77.8														
	S10M			10mm SUPERLOK																		
SBV120 H43	F8N	10.3	3.5	1/2" FEMALE NPT		39.6	39.6	79.2	17.5	17.5	9.4	38.1	71.8	75.0	38.1							
	F8R			1/2" ISO FEMALE																		
	S12M		4.6	12mm SUPERLOK		50.0	50.0	100														
	S8			1/2" SUPERLOK																		
	S12		3.8	3/4" SUPERLOK																		

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- Sizes, pressure classes, and end connections not listed are available upon request.

- Dimensions shown with SUPERLOK nuts finger-tight, where applicable.

Pressure Rating

Vlave	2-Way Straight Pattern psig (bar)	2-Way Angle Pattern psig (bar)	3-Way Switching psig (bar)
SBV120H1	2500 (172)	2500 (172)	2500 (172)
SBV120H2	3000 (206)	2500 (172)	2500 (172)
SBV120H3	2500 (172)	1500 (103)	1500 (103)
SBV120H4	2500 (172)	1500 (103)	1500 (103)

Flow Data at 70°F (21°C)

Straight Type

Cv	Pressure Drop to Atmospher (Δp), psi					
	10	50	100	10	50	100
	Air Flow, SCFM			Water Flow, US GPM		
0.50	6.9	19.1	33.9	1.6	3.5	5.0
0.60	8.3	23.0	40.7	1.9	4.2	6.0
0.90	12.0	34.0	61.0	2.8	6.4	9.0
1.2	17.0	46.0	81.0	3.8	8.5	12.0
1.5	21.0	57.0	100.0	4.7	11.0	15.0
1.6	22.0	61.0	110.0	5.0	11.0	16.0
2.4	33.0	92.0	160.0	7.6	17.0	24.0
2.6	36.0	99.5	176.0	8.2	18.0	26.0
3.0	41.5	115.0	203.0	9.5	21.0	30.0
6.0	83.0	230.0	407.0	19.0	42.0	60.0
6.3	87.2	241.0	427.0	19.9	44.5	63.0
6.4	88.6	245.0	434.0	20.2	45.3	64.0
12	166.0	459.0	814.0	38.0	85.0	120.0

Angle Type & 3-Way

Cv	Pressure Drop to Atmospher (Δp), psi					
	10	50	100	10	50	100
	Air Flow, SCFM			Water Flow, US GPM		
0.30	4.2	11.5	20.3	0.9	2.1	3.0
0.35	4.8	13.4	23.7	1.1	2.4	3.5
0.75	10.0	29.0	51.0	2.3	5.3	7.5
0.80	11.0	31.0	54.0	2.5	5.6	8.0
0.90	12.0	34.0	61.0	2.8	6.3	9.0
1.5	20.6	57.4	102.0	4.7	11.0	15.0
1.7	23.5	65.0	115.0	5.3	12.0	17.0
20.	27.7	76.5	136.0	6.3	14.0	20.0
3.5	48.4	134.0	237.0	11.0	25.0	35.0
3.8	52.6	145.0	258.0	12.0	27.0	38.0
4.6	63.7	176.0	312.0	15.0	33.0	46.0

Ordering Information

Example :

SBV120H1 A - S 6M - SS

1 2 3 4 5

1. Valve Series

- ☐ SBVH120H1
- ☐ SBVH120H2
- ☐ SBVH120H3
- ☐ SBVH120H4

2. Pattern

- ☐ (**Blank**) = 2-Way Straight (Standard)
- ☐ **A** = 2-Way Angle
- ☐ **3** = 3-Way

3. End Connection Type

- ☐ **S** = SUPERLOK Tube Fitting
- ☐ **F** = Female Thread
- ☐ **M** = Male Thread
- ☐ **MS** = Male Thread to SUPERLOK Tube Fitting

4. End Connection Size

Tube O.D Designator

Tube OD (inch)	1/16	1/8	1/4	3/8	1/2	3/4
Designator	1	2	4	6	8	12
Tube OD (mm)	3	6	8	10	12	
Designator	3M	6M	8M	10M	12M	

Pipe Thread Designator

Size(inch)	1/8	1/4	3/8	1/2
Screwed NPT	2N	4N	6N	8N
Screwed BSPT	2R	4R	6R	8R

5. Material

- ☐ **SS(Blank)** = 316 Stainless Steel
- ☐ **B** = BRASS

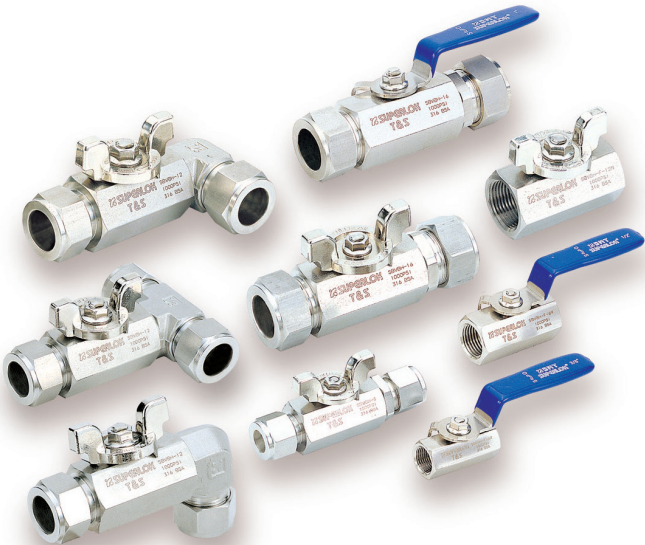
※ For special sizes and configurations, please consult BMT (SUPERLOK) sales representative.

SBV210 Ball Valves

Two-piece Type

Features

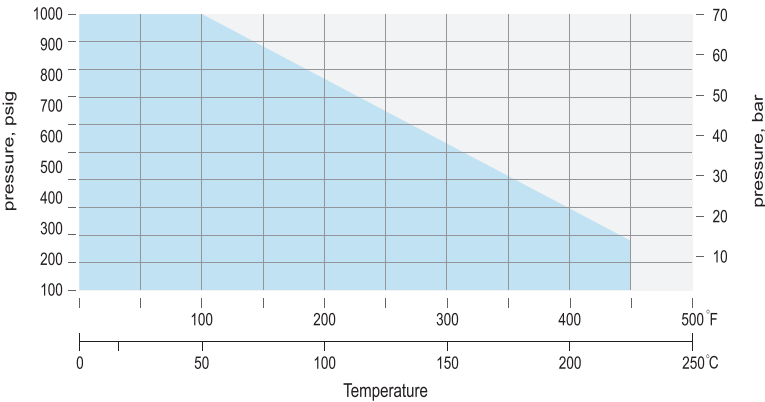
- Compact design
- Tight and smooth, low torque and easy operation
- Butterfly and lever handle available
- Variety of End Connections
- Each and every valve is tested at the factory



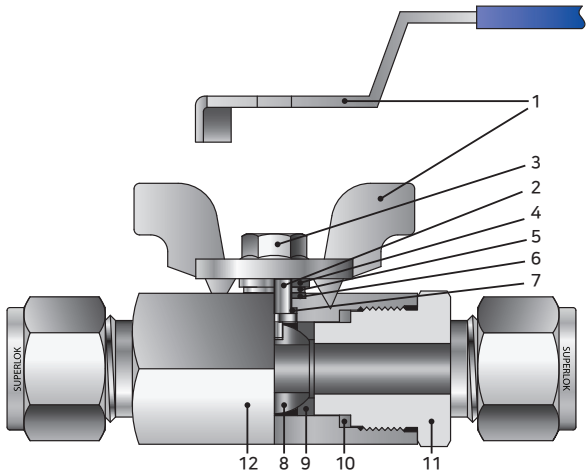
Specifications

- Pressure rating : 1000psig (69bar)@70°F (21°C)
- Body material : 316 stainless steel and Brass
- Port Connections : 1/4 to 1 in. and 6 to 16mm
- Orifice : 5.0 to 16.0mm

Pressure-Temperature Ratings



Materials of Construction

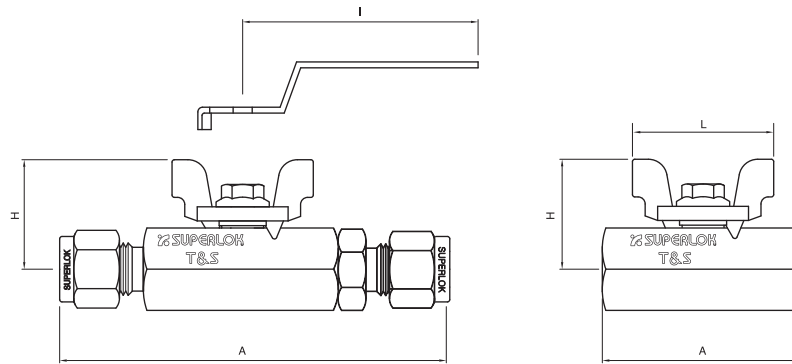


No.	Component	Material Grade / ASTM Specification	
		Stainless Steel	Brass
1	Handle	SS304 Lever handle with PVC color coated Zinc butterfly handle with nickel plated	
2*	Stem	SS316 / A276	
3	Lock Nut	Stainless Steel	
4	Upper Stem Washer	SS304 / A276	
5	Lower Stem Washer		
6	Upper Stem Seal	PTFE	
7	Lower Stem Seal		
*8	Ball	SS316 / A276	
*9	Seat	PTFE	
10	Connector Seal		
*11	End Connector	SS316 / A276	Brass / B16
	Insert(for Female Thread)	SS316 / A276	
*12	Body	SS316 / A276	Brass / B16

* Wetted components

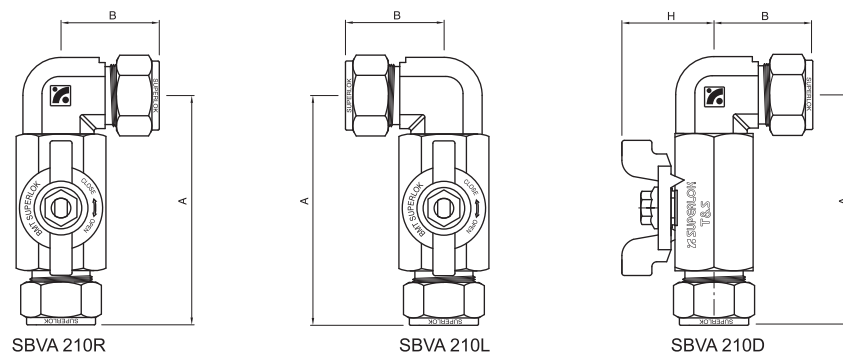
Table of Dimensions

SBV210 Series



Part No.		Orifice	Cv	End Connections	Dimensions			
					A	H	I	L
SBV210	S6M	5.0	1.25	6mm SUPERLOK	79.8	23.0	60.0	30.0
	S4		1.25	1/4" SUPERLOK	79.8			
	F4N		1.4	1/4" FEMALE NPT	42.8			
	S10M	7.5	2.6	10mm SUPERLOK	91.5	31.0	90.0	48.0
	S6		2.5	3/8" SUPERLOK	91.5			
	F6N		2.6	3/8" FEMALE NPT	46.6			
	S12M	9.0	9.5	12mm SUPERLOK	101.4	34.0	90.0	50.0
	S8		9.5	1/2" SUPERLOK	101.4			
	F8N		9.5	1/2" FEMALE NPT	55.0			
	S16M	12.5	10.6	16mm SUPERLOK	107.6	39.0	100.0	55.0
	S10		10.6	5/8" SUPERLOK	107.0			
	S12		12.7	3/4" SUPERLOK	107.0			
	F12N		12.7	3/4" FEMALE NPT	61.3			
	S16	16.0	17.5	1" SUPERLOK	131.0	45.0	100.0	68.0
	F16N		17.5	1" FEMALE NPT	76.0			

SBVA210 Series



Part No.		Orifice	End Connections	Dimensions		
				A	B	H
SBVA210	S4	5.0	1/4" SUPERLOK	65.3	30.5	23.0
	S6	7.5	3/8" SUPERLOK	77.5	36.1	31.0
	S8	9.0	1/2" SUPERLOK	87.9	38.1	34.0
	S12	12.5	3/4" SUPERLOK	93.8	39.9	39.0
	S16	16.0	1" SUPERLOK	115.3	49.0	45.0

- Dimensions and Drawings are for reference only and are subject to change without prior notice.

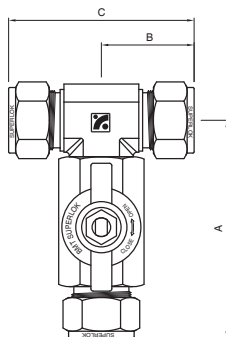
- Unless otherwise specified, all dimensions are in millimeters.

- Sizes, pressure classes, and end connections not listed are available upon request.

- Dimensions shown with SUPERLOK nuts finger-tight, where applicable.

Table of Dimensions

SBVT210 Series



Part No.		Orifice	End Connections	Dimensions		
				A	B	C
SBVT210	S4	5.0	1/4" SUPERLOK	65.3	30.5	61.0
	S6	7.5	3/8" SUPERLOK	77.5	36.1	72.2
	S8	9.0	1/2" SUPERLOK	87.9	38.1	76.2
	S12	12.5	3/4" SUPERLOK	93.8	39.9	79.8
	S16	16.0	1" SUPERLOK	115.3	49.0	98.0

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- 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.

Ordering Information

Example : **SBV210 - S 8 - BH - B**

1 2 3 4 5

1. Valve Series

- ☐ SBV210
- ☐ SBVA210
- ☐ SBVT210

2. End Connection

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

3. End Connection Size

Tube O.D Designator

Tube O.D (inch)	1/4	3/8	1/2	3/4	1
Designator	4	6	8	12	16
Tube O.D (mm)	6	10	12	16	
Designator	6M	10M	12M	16M	

Pipe Thread Designator

Size(inch)	1/4	3/8	1/2	3/4	1
Screwed NPT	4N	6N	8N	12N	16N
Screwed BSPT	4R	6R	8R	12R	12R

4. Handle

- ☐ (Blank) = Butterfly Handle (Standard)
- ☐ BH = Bar Handle

5. Body Material

- ☐ (Blank) = 316 Stainless Steel
- ☐ B = BRASS

SBVH360 Ball Valves

Three-piece High-pressure Type

Features

- Compact design
- High flow rate with maximum orifice
- Variety of End Connections
- Anti blow-out stem design
- Each and every valve is tested at the factory
- Fire safety design available

Specifications

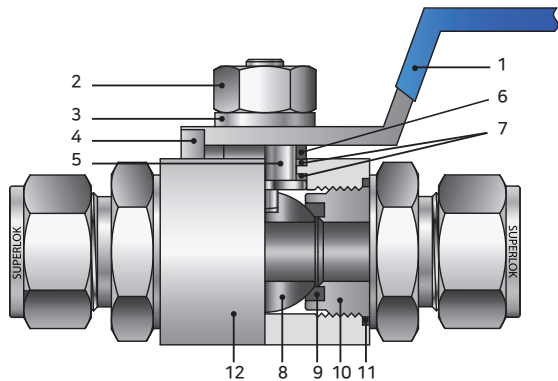
- Pressure rating : 6000psig (414bar)@70°F (21°C)
- Temperature rating : -22 to 300°F (-30 to 150°C) with PCTFE seat
-65 to 500°F (-54 to 260°C) with PEEK seat
- Body material : 316 stainless steel and Brass
- Port Connections : 1/4 to 1 in. and 6 to 25mm
- Orifice : 10.0 to 19.0mm



Testing

- Each Valve is tested with nitrogen at 1000psig(69bar) to maximum allowable leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times of the working pressure (Optional).

Materials of Construction

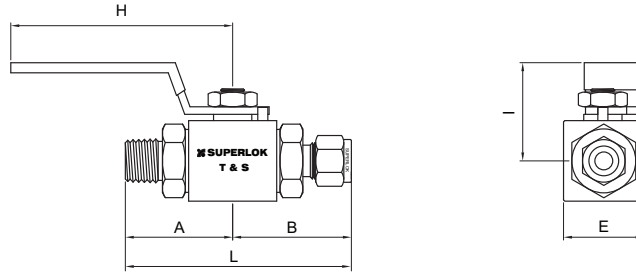


No.	Component	Material Grade / ASTM Specification
		Stainless Steel
1	Handle	SS304 Lever handle with PVC color coated
2	Lock Nut	
3	Spring Washer	
4	Pin	Stainless Steel
*5	Stem	SS316 / A276
6	Stem Washer	SS304 / A276
*7	Stem Packing	PTFE
*8	Ball	SS316 / A276
*9	Seat	PCTFE (Standard)
*10	End Connector	SS316 / A276
*11	Connector Seal	PTFE
*12	Body	SS316 / A276

※ Wetted components

Table of Dimensions

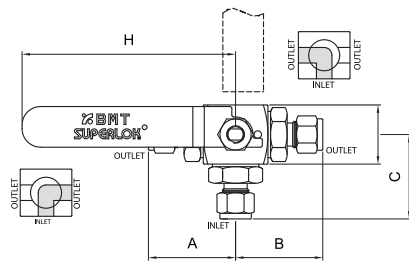
SBVH360 Series(2-Way)



Part No.	Orifice	Cv	End Connections	Dimensions					
				A	B	L	H	I	E
SBVH3601	S4	1.2	1/4" SUPERLOK	45.7	45.7	91.4	115	38.5	32.0
	S6	3.7	3/8" SUPERLOK	47.5	47.5	94.4			
	S8	7.5	1/2" SUPERLOK	49.8	49.8	99.6			
	F4N		1/4" FEMALE NPT	37.0	37.0	74.0			
	F6N		3/8" FEMALE NPT	38.0	38.0	76.0			
	F8N		1/2" FEMALE NPT	41.5	41.5	83.0			
	M4N	3.7	1/4" MALE NPT	42.1	42.1	84.2			
	M6N	7.2	3/8" MALE NPT	42.1	42.1	84.2			
	M8N	7.5	1/2" MALE NPT	47.0	47.0	94.0			
SBVH3602	F8N	10.0	1/2" FEMALE NPT	45.5	45.5	91.0	165	51.9	40.0
	F12N		3/4" FEMALE NPT	51.0	51.0	102.0			
	M12N		3/4" MALE NPT	52.5	52.5	105.0			
	S10		5/8" SUPERLOK	54.0	54.0	108.0			
	S12		3/4" SUPERLOK	54.0	54.0	108.0			
SBVH3603	F12N	19.0	3/4" FEMALE NPT	54.0	54.0	108.0	165	57.0	50.0
	F16N		1" FEMALE NPT	62.5	62.5	125.0			
	S12		3/4" SUPERLOK	61.9	61.9	123.8			
	S16		1" SUPERLOK	66.4	66.4	132.8			
	M12N		3/4" MALE NPT	59.0	59.0	118.0			
	M16N		1" MALE NPT	63.8	63.8	127.6			

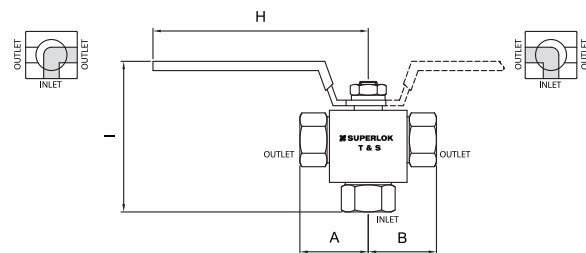
SBVH360-3S Series (3-Way)

Side Inlet Port



SBVH360-3 Series (3-Way)

Bottom Inlet Port



Part No.	Orifice	End Connections	Dimensions				
			A	B	I	H	C
SBVH36013 & SBVH36013S	S4	1/4" SUPERLOK	45.7	45.7	91.4	115	53.3
	S6	3/8" SUPERLOK	47.2	47.2	94.4		54.8
	S8	1/2" SUPERLOK	49.8	49.8	99.6		54.0
	F4N	1/4" FEMALE NPT	37.0	37.0	74.0		36.5
	F6N	3/8" FEMALE NPT	38.0	38.0	76.0		40.0
	F8N	1/2" FEMALE NPT	41.5	41.5	83.0		44.0
SBVH36023 & SBVH36023S	S10	5/8" SUPERLOK	54.0	54.0	108.0	165	65.3
	S12	3/4" SUPERLOK	54.0	54.0	108.0		65.3
	F8N	1/2" FEMALE NPT	45.5	45.5	91.0		49.5
	F12N	3/4" FEMALE NPT	51.0	51.0	102.0		55.0
SBVH36033 & SBVH36033S	S12	3/4" SUPERLOK	61.9	61.9	123.8	165	69.8
	S16	1" SUPERLOK	66.4	66.4	132.8		69.8
	F12N	3/4" FEMALE NPT	59.0	59.0	118.0		56.5
	F16N	1" FEMALE NPT	63.8	63.8	127.6		60.6

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- 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 Rating

2-Way Straight

Valve Series	Materials			Pressure Rating @-54 to 21°C (-65 to 70°F)	Temperature Rating
	Seat	Stem Packing	End Connector Seal		
3601	PVDF	PTFE		6000psig (413bar)	-30 to 130°C (-22 to 265°F)
	PCTFE				-30 to 150°C (-22 to 300°F)
	PEEK			10000psig (689bar)	-54 to 260°C (-65 to 500°F)
3602 & 3603	PVDF			5000psig (344bar)	-23 to 191°C (-10 to 375°F)
	PCTFE				
	PEEK			6000psig (413bar)	

2-Way Angle & 3-Way

Valve Series	Materials			Pressure Rating @-54 to 21°C (-65 to 70°F)	Temperature Rating	
	Seat	Stem Packing	End Connector Seal			
3601	PVDF	PTFE	VITON	4000psig(275bar)	-30 to 130°C (-22 to 265°F)	
	PCTFE				-30 to 150°C (-22 to 300°F)	
	PEEK			6000psig(413bar)	-54 to 260°C (-65 to 500°F)	
3602 & 3603	PVDF			3000psig(206bar)	-23 to 191°C (-10 to 375°F)	
	PCTFE			4000psig(275bar)		
	PEEK					

Ordering Information

Example : **SBVH3602 - S 12 - PE - M40**

1 2 3 4 5

1. Valve Series

2-Way straight

- ☐ SBVH3601
- ☐ SBVH3602
- ☐ SBVH3603

2-Way Angle

- ☐ SBVH3601A
- ☐ SBVH3602A
- ☐ SBVH3603A

3-Way : Bottom Inlet Port

- ☐ SBVH36013
- ☐ SBVH36023
- ☐ SBVH36033

3-Way : Side Inlet Port

- ☐ SBVH36013S
- ☐ SBVH36023S
- ☐ SBVH36033S

2. End Connection

- ☐ **S** = SUPERLOK Tube Fitting
- ☐ **F** = Female Thread
- ☐ **M** = Male Thread

3. Connection Size

Tube O.D Designator

Tube O.D (inch)	1/4	3/8	1/2	5/8	3/4	1
Designator	4	6	8	10	12	16

Pipe Thread Designator

Size(inch)	1/4	3/8	1/2	3/4	1
Screw NPT	4N	6N	8N	12N	16N
Screw BSPT	4R	6R	8R	12R	12R

4. Seat Material

- ☐ **(Blank)** = PCTFE(Standard)
- ☐ **PV** = PVDF
- ☐ **PE** = PEEK

5. Body Material

- ☐ **(Blank)** = 316 Stainless Steel
- ☐ **M40** = ALLOY (Monel)

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

Key Operation Ball Valves

Key Operation Ball Valve (a ball valve that can be opened or closed with Master Key) was first developed by BMT in 2007.

Key Operation Ball Valve is secured against undesired manipulation that can lead to massive system failures, leakage of hazardous gases or fluids, ultimately, catastrophic damages and losses.



Features

- The valve can only be operated inserting Master Key into the handle.
- Applicable to various types of valves such as ball, needle, diaphragm, and bellows valves.
- Accidents caused by inadvertent or unauthorized operation can be prevented.
- Ideal to use in areas populated or opened to unauthorized individuals, preventing accidents resulted from undesired manipulation.

Options

- **Standard type:** The locking function works at both open and closed positions as the Master Key is taken out from the handle.
- **Open-Free type:** At fully-opened position, it is impossible to close the valve without the insertion of the key. Suitable for systems where the stop of flow from inadvertent or unauthorized manipulation may lead to catastrophic results.
- **Close-Free Type:** At fully-closed position, it is impossible to open the valve without the insertion of the key. Suitable for systems where the start of fluid flow from inadvertent or unauthorized may lead to catastrophic results.

Low Pressure Key Operation Ball Valves

SBVL210 Series

Features

- Locking handle in On and Off positions
- Compact design
- Low operating torques
- Variety of End connections



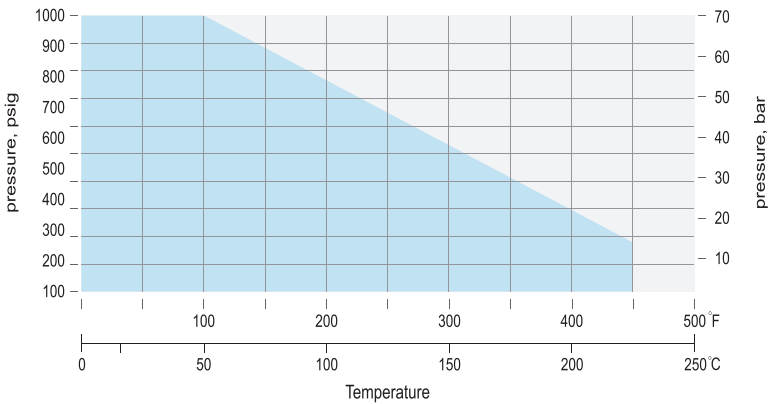
Specifications

- Pressure rating: 1000psig (69bar) @100 °F (38 °C)
- Temperature rating
- Body material: 316 stainless steel
- Port Connections: 1/4 to 1 in. and 6 to 25mm
- Orifice: 5.0 to 16.0mm

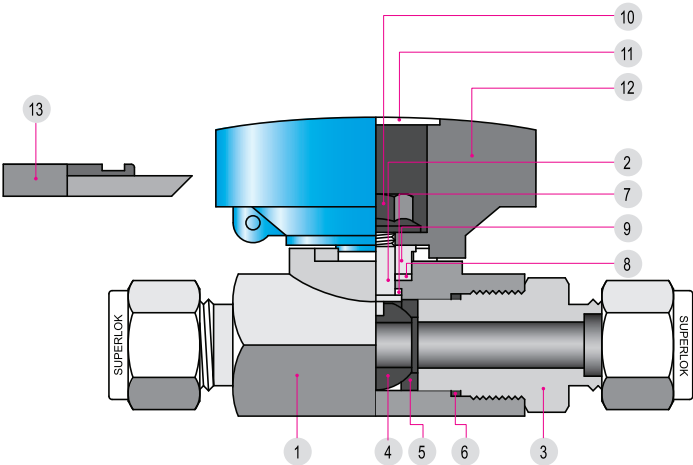
Testing

- Each and every valve is tested with nitrogen at 1000psig (69bar).
- The valves have max allowable leak rate of 0.1 cm³/min
- Shell testing can be performed upon request.

Pressure-Temperature Rating



Materials of Construction

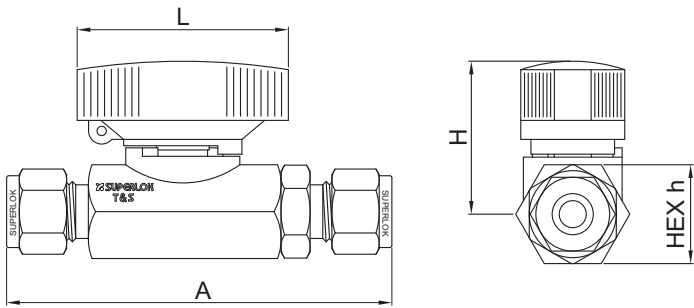


No.	Component	Material Grade ASTM Specification
*1	Body	A185-F316 / A276-316 / A351-CF8M
*2	Stem	A276-316
*3	End Connector	A276-316
*4	Ball	A276-316
*5	Ball Seal	PTFE
*6	Connector Seal	PTFE
*7	Lower Stem Seal	PTFE
*8	Upper Stem Seal	PTFE
*9	Stem Washer	A276-304
10	Nut	Stainless Steel
11	Handle Cap	Aluminum
12	Handle	Aluminum
13	Master Key	Zinc

* Wetted components

Table of Dimensions

SBVL210 Series



Part No.		Orifice	Cv	End Connection	Dimensions			
					h	A	H	L
SBVL 210	S6M	5.0	1.25	6mm SUPERLOK	18.0	79.8	32.3	42.0
	S4			1/4" SUPERLOK				
	S10M	7.0	2.5	10mm SUPERLOK	22.2	91.5	35.6	50.0
	S6			3/8" SUPERLOK				
	S12M	9.0	9.5	12mm SUPERLOK	27.0	101.4	37.6	50.0
	S8			1/2" SUPERLOK				
	S16M	12.5	12.7	16mm SUPERLOK	31.8	107.0	40.4	60.0
	S12			3/4" SUPERLOK				
	S25M	16.0	17.5	25mm SUPERLOK	38.1	131.0	43.5	60.0
	S16			1" SUPERLOK				

- 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.

Ordering Information

Example : **SBVL 210 - S8 - RD - OT**

1
2 3
4
5

1. Valve Series

- ☐ **SBVL210**

2. End Connection

- ☐ **S** = SUPERLOK Tube Fitting
☐ **F** = Female Thread
☐ **M** = Male Thread

3. End Connection Size

Tube O.D

Tube O.D (inch)	1/4	3/8	1/2	3/4	1
Designator	4	6	8	12	16
Tube O.D (inch)	6	10	12	16	25
Designator	6M	10M	12M	16M	25M

Pipe Thread

Size (inch)	1/4	3/8	1/2	3/4	1
Screwed BSPT	4R	6R	8R	12R	16R
Screwed NPT	4N	6N	8N	12N	16N

4. Handle Color

- ☐ **(Blank)** = Blue (Standard)
☐ **RD** = Red
☐ **BK** = Black

5. Valve Type*

- ☐ **(Blank)** = Standard Type
☐ **OT** = Open Free Type
☐ **CT** = Close Free Type

* Please refer to page 282 for the valve types.

High Pressure Key Operation Ball Valves

SBVL360 Series

Features

- Locking handle in On and Off positions
- High flow capacity in a compact design
- Low operating torques
- Positive handle stops
- Variety of End connections

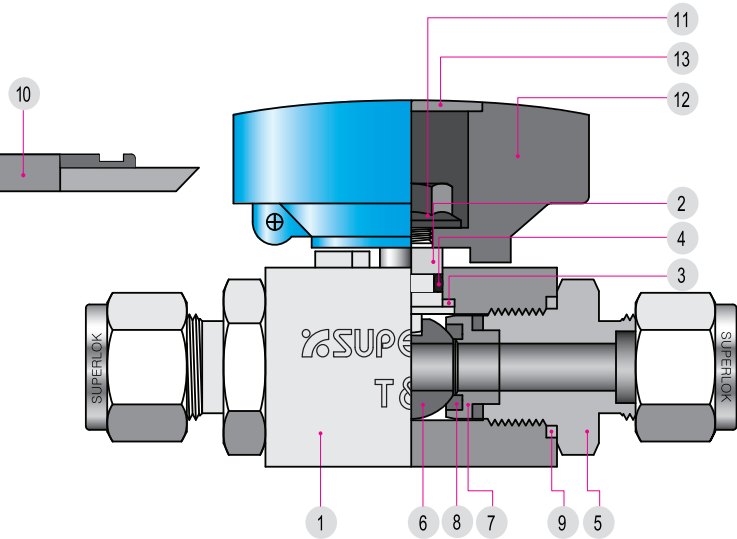
Specifications

- Pressure rating: 6000psig (413bar) @70 °F(21 °C) with standard PCTFE seat
- Temperature rating: -65 to 350 °F (-54 to 177 °C) with standard PCTFE seat
- Body material: 316 stainless steel
- Port connections: 1/4 to 3/4 in. and 6 to 25mm

Testing

- Each and every valve is tested with nitrogen at 1000psig (69bar).
- Valve have max allowable leak rate of 0.1 cm³/min
- Shell testing is performed on demand.

Materials of Construction

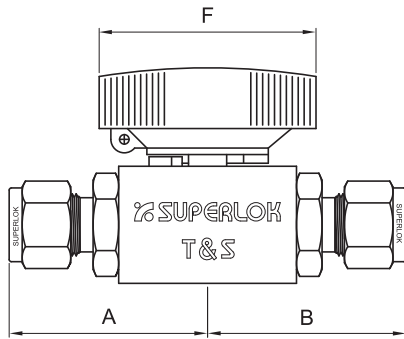


No.	Component	Material Grade ASTM Specification
*1	Body	A276-316 / A351-CF8M
*2	Stem	SS316 / A276
*3	Thrust Washer	PEEK
*4	O-Ring	NBR
*5	End Connector	A276-316
*6	Ball	A276-316
*7	Seal Retainer	A276-316
*8	Ball Seal	PCTFE
*9	Connector Seal	PTFE
10	Master Key	Zinc
11	Nut	Stainless Steel
12	Handle	Aluminum
13	Handle Cap	Aluminum

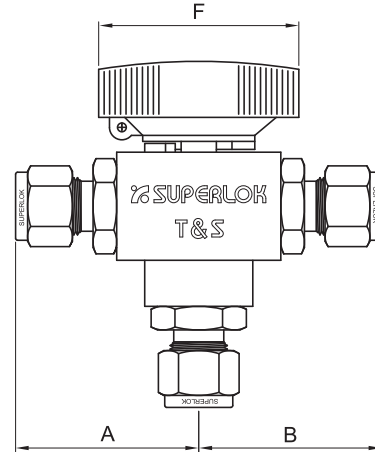
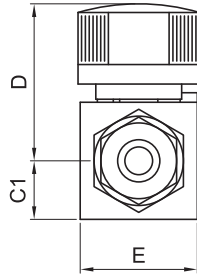
* Wetted components

Table of Dimensions

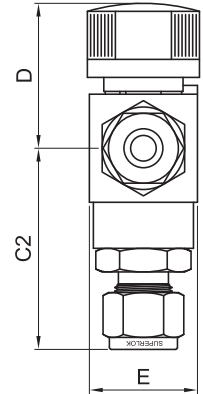
SBVL360



2 - way



3 - way



Part No.		Orifice	Cv	End Connection	Dimensions						
					A	B	C1	C2	D	E	F
SBVL3601 or SBVL36013	S6M	4.8	1.04	6mm SUPERLOK	43.8	43.8	12.0	43.8	33.7	24.0	42.0
	S4			1/4" SUPERLOK	43.8	43.8		43.8			
	F2N			1/8" FEMALE NPT	34.0	34.0		34.0			
	M4N			1/4" MALE NPT	40.2	40.2		40.2			
SBVL3602 or SBVL36023	S8M	6.4	2.34	8mm SUPERLOK	45.2	45.2	13.5	53.2	36.2	27.0	50.0
	S10M			10mm SUPERLOK	46.0	46.0		54.0			
	S6			3/8" SUPERLOK	45.7	45.7		53.7			
	F4N			1/4" FEMALE NPT	38.4	38.4		46.4			
	M4N			1/4" MALE NPT	41.1	41.1		49.1			
	M6N			3/8" MALE NPT	41.1	41.1		49.1			
SBVL3603 or SBVL36023	S12M	9.5	5.57	12mm SUPERLOK	59.2	59.2	16.0	69.2	41.5	32.0	60.0
	S16M	10.3	6.42	16mm SUPERLOK	59.2	59.2		69.2			
	S8			1/2" SUPERLOK	59.4	59.4		69.4			
	S12			3/4" SUPERLOK	59.2	59.2		69.2			
	F6N			3/8" FEMALE NPT	49.5	49.5		59.5			
	F8N			1/2" FEMALE NPT	54.6	54.6		64.6			
	M8N			1/2" MALE NPT	56.4	56.4		66.4			

- 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.

Technical Data

Temperature and Pressure Rating

Seat Material	Temperature Rating	Pressure Rating @ 100°F (38°C)		Pressure Rating @ Max. Temperature	
		Stainless Steel	Brass	Stainless Steel	Brass
PCTFE	-65 to 300°F (-54 to 148°C)	6000psig (413 bar)	3000psig (207 bar)	1000psig@300°F (68.9bar@148°C)	700psig@300°F (48bar@200°C)
PEEK	-65 to 450°F (-54 to 232°C)	6000psig (413 bar)	3000psig (207 bar)	700psig@400°F (48bar@200°C)	
PTFE	-65 to 300°F (-54 to 148°C)	1500psig (103 bar)	1500psig (103 bar)	250psig@300°F (17.2bar@148°C)	

Ordering Information

Example :	SBVL 3602 - S6 - PE - RD - OT					
	1	2 3	4	5	6	

1. Valve Series

2-Way

- ☐ SBVL3601
- ☐ SBVL3602
- ☐ SBVL3603

3-Way

- ☐ SBVL36013
- ☐ SBVL36023
- ☐ SBVL30233

2. End Connection

- ☐ **S** = SUPERLOK Tube Fitting
- ☐ **F** = Female Thread
- ☐ **M** = Male Thread

3. End Connection Size

Tube O.D Designator

Tube OD (inch)	1/4		3/8		1/2		3/4					
Designator	4		6		8		12					
Tube OD (mm)	6		8		10		12		16		20	
Designator	6M		8M		10M		12M		16M		20M	

Pipe Thread Designator

Size (inch)	1/4	3/8	1/2	3/4
Screw BSPT	4R	6R	8R	12R
Screw NPT	4N	6N	8N	12N

4. Handle Color

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

5. Handle Color

- ☐ **(Blank)** = Blue (Standard)
- ☐ **RD** = Red
- ☐ **BK** = Black

6. Valve Type*

- ☐ **(Blank)** = Standard Type
- ☐ **OT** = Open Free Type
- ☐ **CT** = Close Free Type
- ☐ **ST** = Special Type

* Please refer to page 282 for the valve types.

Ball Valves to DIN Standard

SBVD 370 Series

Features

- Pressure rating : 7200psig (500bar)
- Temperature rating : -20°C to 100°C with POM and NBR standard.
- Compact design with max orifice.
- Conforms to DIN standard.
- Each and every valves are tested at the factory.



Materials of Construction

Component	Body Material			
	316 Stainless Steel		Carbon Steel	
	ASTM	DIN	ASTM	DIN
*Body	A479 / SS316	17440 / 1.4571	A108 / 12L14	1651 / 9SMn28K
*End Connector				
*Stem				
*Ball	316 Stainless Steel			
*Ball Seals	POM-MoS ₂ (Standard)			
Stem & Connector Seals	NBR (Standard)			
Handle	316 Stainless Steel		Carbon Steel	
Locking Device	Stainless Steel			

* Wetted components

Temperature Rating

Stem and Connector Seals

Materials	Temperature Rating
NBR	-30°C to 100°C
Viton	-25°C to 200°C
EPDM	-50°C to 130°C

Ball Seals

Materials	Temperature Rating
POM - MoS ₂	-30°C to 100°C
PTFE	-54°C to 232°C

Specifications

Locking Device

- is available as option

Indicator on Washer

- allows easy identification of flow direction

Stem & Connector Seals

- include NBR (standard), viton and EPDM(optional)

Orifice

- is maximized for minimal pressure drop
- ranges from DN 4 to DN 25.
- is available up to DN 80 upon request

Ball Seats

- are available in POM-MoS2 (standard) and PTFE (optional).

Handle

- is available in cast stainless steel (standard) and zinc plated carbon steel (optional).

Variety of End Connections

- include DIN 2353 "L" & "S" series Male & Female DIN/ISO/BSP and NPT.

Body Construction

- is machined from bar stock
- is available in stainless steel and zinc plated carbon steel.

Floating Ball

- is machined from bar stock
- is available in stainless steel and hard chrome plated carbon steel.

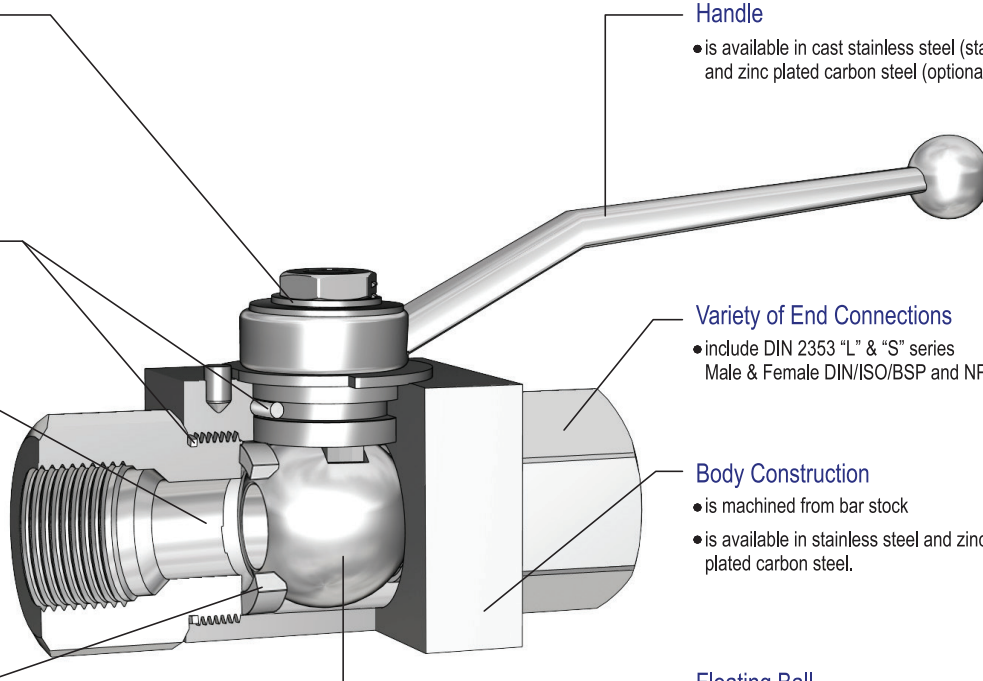


Table of Dimensions

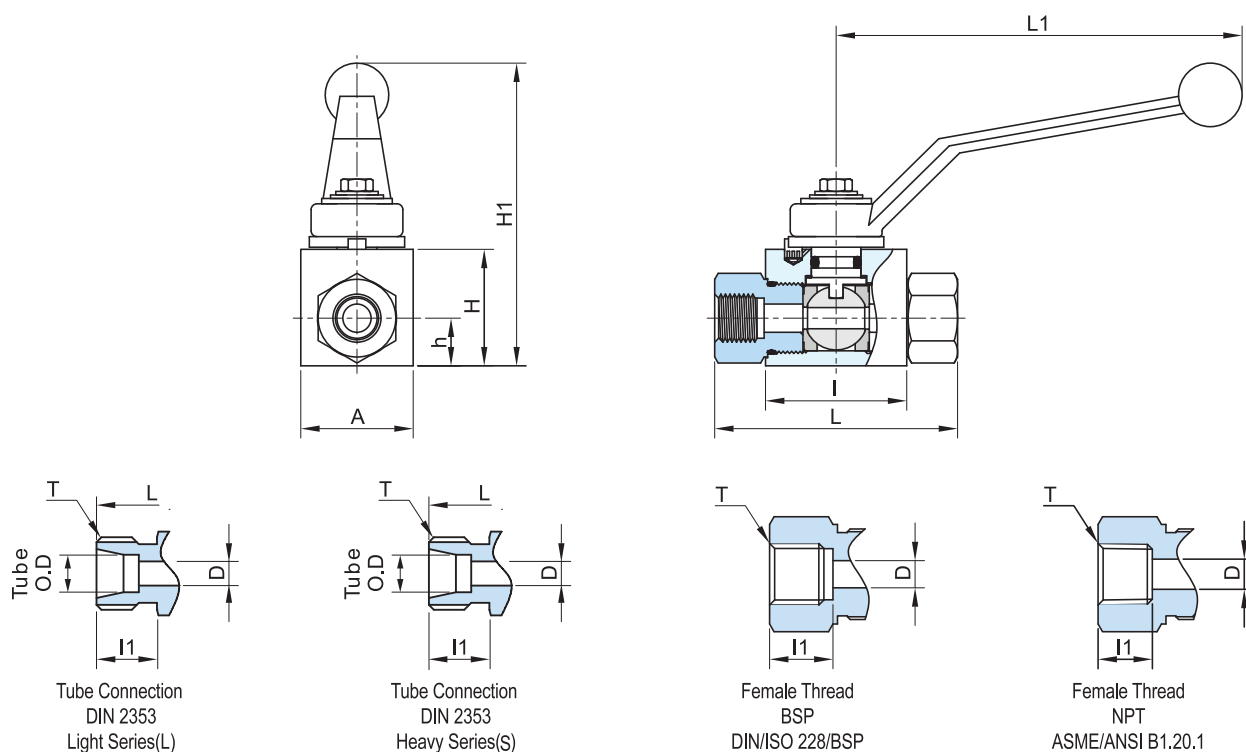


Table of Dimensions

DIN 2353 Light Series (L)

Part No.		Tube O.D.	Max Orifice D	*PB	A	H	H1	h	I	I1	L	L1	Thread T
SBVD3701	D-06L	6	4	315	26	33	83	13.5	40	10	73	115	M12xP1.5
	D-08L	8	6	315	26	33	83	13.5	40	10	73	115	M14xP1.5
SBVD3702	D-10L	10	8	315	32	40	88	17.5	45	11	87	115	M16xP1.5
	D-12L	12	10	315	32	40	88	17.5	45	11	87	115	M18xP1.5
SBVD3703	D-15L	15	12	315	40	46	96	19.0	51	12	91	160	M22xP1.5
	D-18L	18	15	315	40	46	96	19.0	51	12	91	160	M26xP1.5
SBVD3704	D-22L	22	20	160	55	57	112	24.5	60	14	105	200	M30xP2.0
	D-28L	28	25	160	58	65	120	29.5	70	14	118	200	M36xP2.0
SBVD3705	D-35L	35	32	160	76	86	150	40.5	80	16	145	250	M45xP2.0
	D-42L	42	38	160	100	103	170	50.0	85	16	150	250	M52xP2.0

DIN 2353 Heavy Series (S)

Part No.		Tube O.D.	Max Orifice D	*PB	A	H	H1	h	I	I1	L	L1	Thread T
SBVD3701	D-08S	8	4	500	26	33	83	13.5	40	12	76	115	M16xP1.5
	D-10S	10	6	500	26	33	83	13.5	40	12	76	115	M18xP1.5
SBVD3702	D-12S	12	8	500	32	40	88	17.5	45	12	89	115	M20xP1.5
	D-14S	14	10	500	32	40	88	17.5	45	14	93	115	M22xP1.5
SBVD3703	D-16S	16	12	400	40	46	96	19.0	51	14	96	160	M24xP1.5
	D-20S	20	15	400	40	46	96	19.0	51	16	100	160	M30xP2.0
SBVD3704	D-25S	25	20	315	55	57	112	24.5	60	18	113	200	M36xP2.0
	D-30S	30	25	315	58	65	120	29.5	70	20	130	200	M42xP2.0
SBVD3705	D-38S	38	32	315	76	86	150	40.5	80	22	147	250	M52xP2.0

Female DIN/ISO 228/BSP

Part No.		Max Orifice D	*PB	A	H	H1	h	I	I1	L	L1	Thread T
SBVD3701	F-2G	4	500	26	33	83	13.5	40	10.0	69	115	1/8" PF
	F-4G	6	500	26	33	83	13.5	40	14.0	69	115	1/4" PF
SBVD3702	F-6G	10	500	35	37	88	17.5	45	14.0	74	115	3/8" PF
SBVD3703	F-8G	15(12)	400	42	47	106	19.0	51	16.5	83	160	1/2" PF
	F-10G	15	400	42	47	106	19.0	51	16.0	83	160	5/8" PF
SBVD3704	F-12G	20	315	55	60	125	24.5	60	18.0	95	200	3/4" PF
	F-16G	25	315	66	68.5	133	29.5	70	20.0	113	200	1" PF
SBVD3705	F-20G	32	315	81	86	162.5	40.5	80	22.0	120	250	1 1/4" PF
	F-24G	38	315	100	103	180	50.0	85	24.0	130	250	1 1/2" PF

Female NPT (ANSI/ASME B1.20.1)

Part No.		Max Orifice D	*PB	A	H	H1	h	I	I1	L	L1	Thread T
SBVD3701	F-2N	4	500	26	33	83	13.5	40	13.0	69	115	1/8" NPT
	F-4N	6	500	26	33	83	13.5	40	17.0	69	115	1/4" NPT
SBVD3702	F-6N	10	500	32	40	88	17.5	45	17.4	80	115	3/8" NPT
SBVD3703	F-8N	15(12)	400	40	46	96	19.0	51	25.0	104	160	1/2" NPT
	F-10N	15	400	40	46	96	19.0	51	25.0	104	160	5/8" NPT
SBVD3704	F-12N	20	315	55	57	112	24.5	60	23.1	102	200	3/4" NPT
	F-16N	25	315	58	65	120	29.5	70	27.8	119	200	1" NPT
SBVD3705	F-20N	32	315	76	86	150	40.5	80	28.3	120	250	1 1/4" NPT
	F-24N	38	315	100	103	170	50.0	85	28.0	130	250	1 1/2" NPT

*PB: in bar with a safety factor of 1.5

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- 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.

Ordering information

Example :

SBVD3702 - D 12S - PC - V - S15C

1

2

3

4

5

6

1. Valve Series

- ☐ SBVD3701
- ☐ SBVD3702
- ☐ SBVD3703
- ☐ SBVD3704
- ☐ SBVD3705

2. End Connection

- ☐ D = SUPERLOK DIN2353 Tube Fitting
- ☐ F = Female Thread

3. Connection Size

DIN2353 Light Series	Connection Size (mm)	6	8	10	12	15	18	22	28	35	42
	Designator	06L	08L	10L	12L	15L	18L	22L	28L	35L	42L
DIN2353 Heavy Series	Connection Size (mm)	6	8	10	12	14	16	20	25	30	38
	Designator	06S	08S	10S	12S	14S	16S	20S	25S	30S	38S
DIN2353 Heavy Series	Connection Size (inch)	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2		
	Designator	2N	4N	6N	8N	12N	16N	20N	24N		
DIN2353 Heavy Series	Connection Size (inch)	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2		
	Designator	2G	4G	6G	8G	12G	16G	20G	24G		

4. Seat Material Designator

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

5. O-ring Material Designator

- ☐ (Blank) = NBR (Standard)
- ☐ E = EPDM
- ☐ V = Viton

5. Material

- ☐ (Blank) = 316 Stainless Steel
- ☐ S15C = Carbon Steel

Trunnion Ball Valves

SBT Series

Introduction

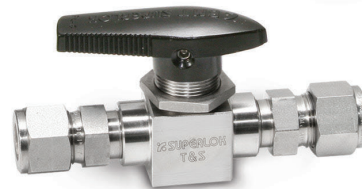
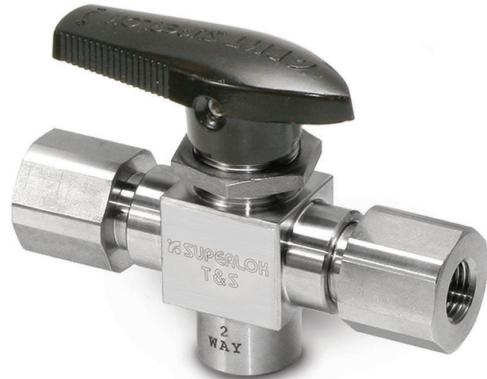
SUPERLOK High Pressure Ball Valves provide reliable shut-off or switching functions. The upper and lower trunnion bearings enhance the resistance of the trunnions against seizure, and increase the valve life in extreme applications. The compact and rugged design employs spring-loaded seats for high cycle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

Features

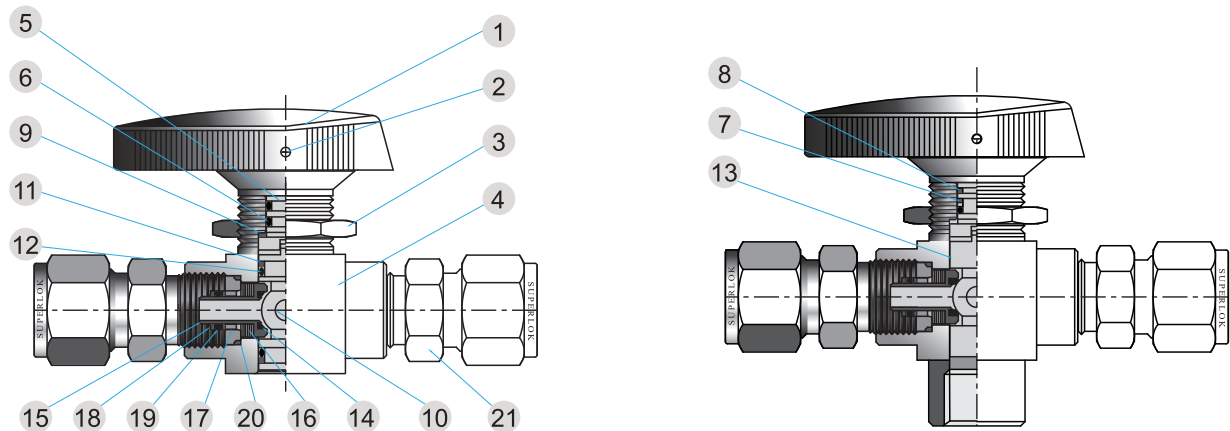
- PEEK trunnion bearings for longer cycle life
- Two-way and three way designs
- Blow-out resistant two-piece ball/stem
- Low operating torque
- Panel mountable to 9.7mm thickness
- Handle indicates direction of flow
- Positive handle stops
- 100% factory tested
- Compact, maximum flow design

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

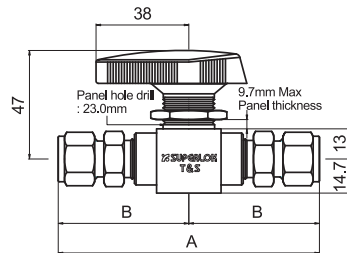


Component		BT Series (6,000psig)		BTH Series (10,000psig)	
		2-Way	3-Way	2-Way	3-Way
		Material Grade/ASTM Specification		Material Grade/ASTM Specification	
1	Handle	Phenolic with brass insert		Phenolic with brass insert	
2	Set screw	Stainless steel		Stainless steel	
3	Panel nut	SS316/A276		SS316/A276	
*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	

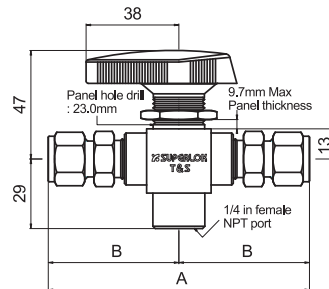
* Wetted components

Table of Dimensions

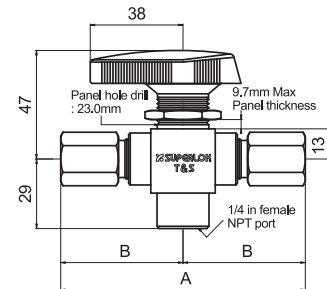
BT Series 2-Way



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

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- 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.

Swing-out Ball Valves

SWB 320 Series



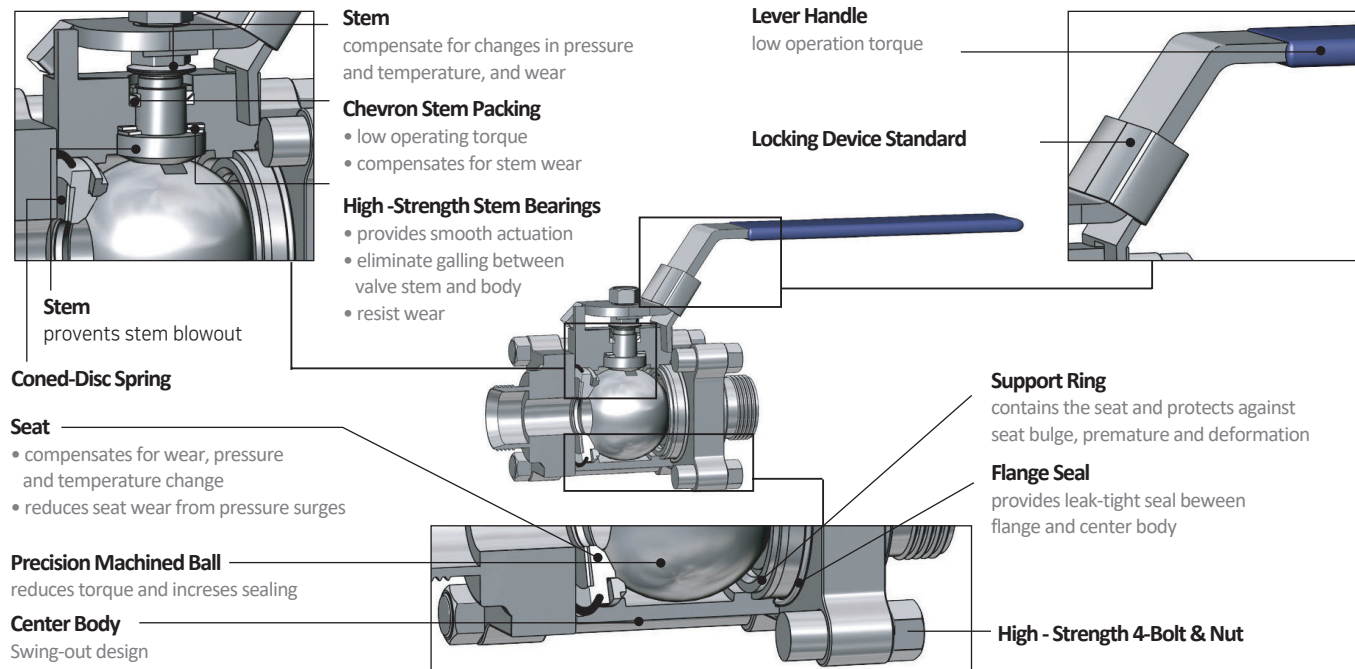
SWB 320 Series

Specifications

Pressure Rating up to 3000 psig (206 bar) at 100°F (37°C) / Temperature Range from -20°F (-28°C) to 450°F (232°C)

Testing

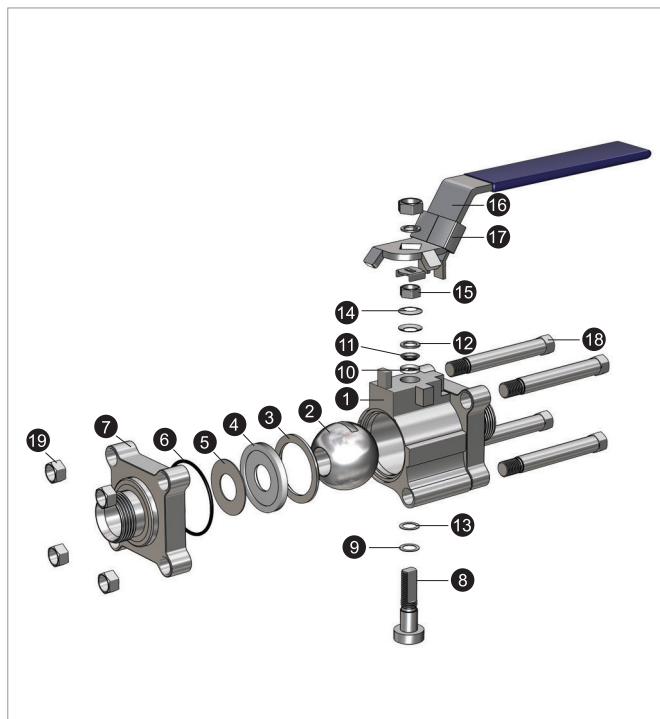
- Each valve is tested with nitrogen at 1000 psig (69 bar) to maximum allowable leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times the working pressure (optional).



Materials of Construction

Component		Valve Body Materials	Q'TY
		Material / ASTM Specification	
*1	Body	CF8M / A351	1
*2	Ball	CF8M / A351	1
*3	Support Ring	SS316 / A276	2
*4	Seats	Reinforced PTFE	2
*5	Seat Spring	Strain Hardned 316 SS / A240	2
6	Flange Seal	PTFE	2
7	Flange	CF8M / A351	2
*8	Stem	SS316 / A276	1
*9	Stem Bearing	PEEK	1
*10	Lower Packing	Reinforced PTFE	1
*11	Upper Packing	Reinforced PTFE	1
12	Packing Support	SS316 / A276	1
13	Packing Gland	SS316 / A276	1
14	Stem Spring	Stainless Steel	3
15	Packing Nut	Stainless Steel	2
16	Handle	Stainless Steel	1
17	Locking Device	Stainless Steel	1
18	Flange Bolt	A193/B8M	4
19	Flange Nut	A194/8M	4

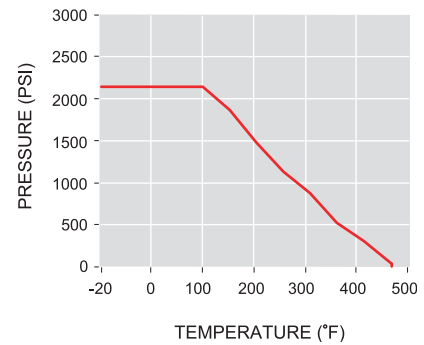
* Wetted components



Pressure - Temperature Rating

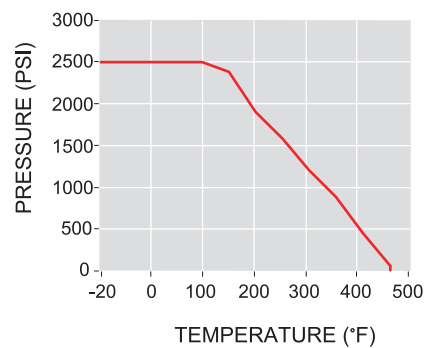
Reinforced PTFE Seats (R-PTFE) : Standard

Series	Pressure - Temperature Rating	
	Temperature °F (°C)	Working Pressure psig (bar)
SWB 320	-20 to 100 (-28 to 37)	2200 (151)
	150 (65)	1850 (127)
	200 (93)	1500 (103)
	250 (121)	1150 (79.2)
	300 (148)	800 (55.1)
	350 (176)	560 (38.5)
	400 (204)	330 (22.7)
	450 (232)	100 (6.8)



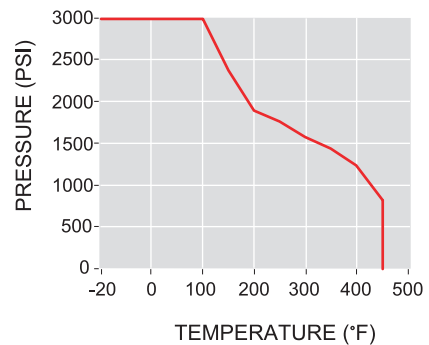
Carbon / Glass PTFE Seats : option

Series	Pressure - Temperature Rating	
	Temperature °F (°C)	Working Pressure psig (bar)
SWB 320	-20 to 100 (-28 to 37)	2500 (172)
	150 (65)	2430 (167)
	200 (93)	1870 (128)
	250 (121)	1620 (111)
	300 (148)	1240 (85.4)
	350 (176)	860 (59.2)
	400 (204)	480 (33.0)
	450 (232)	100 (6.8)



PEEK Seats : option

Series	Pressure - Temperature Rating	
	Temperature °F (°C)	Working Pressure psig (bar)
SWB 320	-20 to 100 (-28 to 37)	3000 (206)
	150 (65)	2420 (166)
	200 (93)	1870 (128)
	250 (121)	1770 (121)
	300 (148)	1600 (110)
	350 (176)	1430 (98.5)
	400 (204)	1260 (86.8)
	450 (232)	800 (55.1)



Virgin PTFE Seats : option

Series	Pressure - Temperature Rating	
	Temperature °F (°C)	Working Pressure psig (bar)
SWB 320	-20 to 100 (-28 to 37)	1500 (103)
	150 (65)	1500 (103)
	200 (93)	1500 (103)
	250 (121)	1150 (79.2)
	300 (148)	800 (55.1)
	350 (176)	560 (38.5)
	400 (204)	330 (22.7)
	450 (232)	100 (6.8)

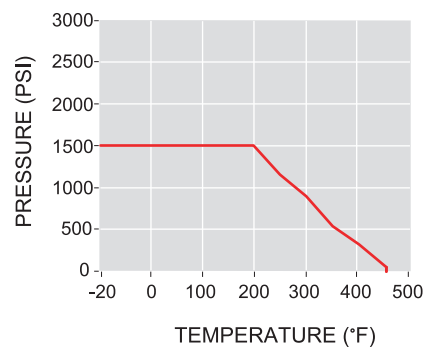
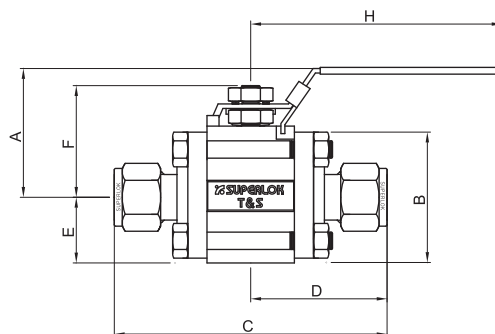
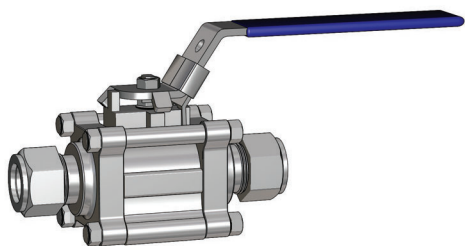
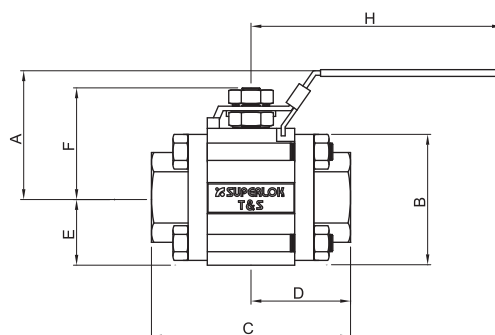
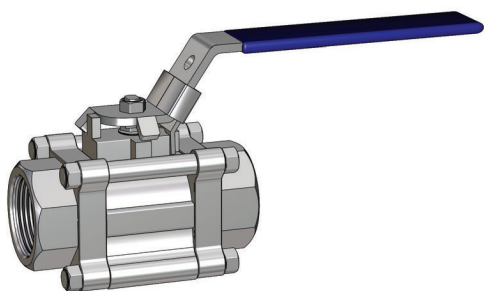


Table of Dimensions



SUPERLOK Tube End Connection

Part No.	Orifice in.(mm)	Cv	End Connection	Dimension						
				A	B	C	D	E	F	H
SWB3201	S4	0.188 (4.8)	1/4 " Superlok	47.7	33.0	80.8	40.40	16.75	31.8	57.2
	S6	0.281 (7.1)	3/8 " Superlok							
	S6M	0.188 (4.8)	6mm Superlok							
	S8M	0.250 (6.4)	8mm Superlok							
	S10M	0.281 (7.1)	10mm Superlok							
SWB3202	S8	0.411 (10.4)	1/2 " Superlok	64.8	44.5	103.8	51.90	22.25	44.2	111.0
	S12	0.516 (13.1)	3/4 " Superlok							
	S12M	0.411 (10.4)	12mm Superlok							
SWB3203	S16	0.875 (22.2)	1 " Superlok	79.0	62.0	136.7	68.35	31.0	61.9	149.4
	S25M		25mm Superlok							
SWB3204	S24	1.250 (31.8)	1-1/2 " Superlok	102.0	77.7	192.6	96.3	38.9	79.8	232.0
SWB3205	S32	1.500 (38.1)	2 " Superlok	106.0	88.1	252.0	126.0	44.2	85.3	232.0



Female Pipe Thread End Connections

Part No.	Orifice in.(mm)	Cv	End Connection	Dimension						
				A	B	C	D	E	F	H
SWB3201	F2N	0.281 (7.1)	1/8 " Female NPT	47.7	33.0	55.4	27.70	16.75	31.8	57.2
	F4N		1/4 " Female NPT							
	F4R		1/4 " Female PT							
SWB3202	F6N	0.516 (13.1)	3/8 " Female NPT	64.8	44.5	68.9	34.45	22.25	44.2	111.0
	F8N		1/2 " Female NPT							
	F8R		1/2 " Female PT							
SWB3203	F12N	0.875 (22.2)	3/4 " Female NPT	79.0	62.0	92.0	46.0	31.0	61.9	149.4
	F16N		1 " Female NPT							
	F12R		3/4 " Female PT							
	F16R		1 " Female PT							
SWB3204	F20N	90	1-1/4 " Female NPT	102.0	77.7	112.2	55.6	38.9	79.8	232.0
	F24N	100	1-1/2 " Female NPT							
	F24R		1-1/2 " Female PT							
SWB3205	F32N	130	2 " Female NPT	106.0	88.1	125.4	62.7	44.2	85.3	232.0
	F32R		2 " Female PT							

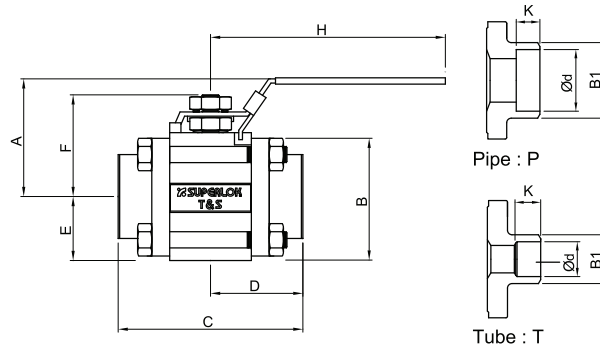
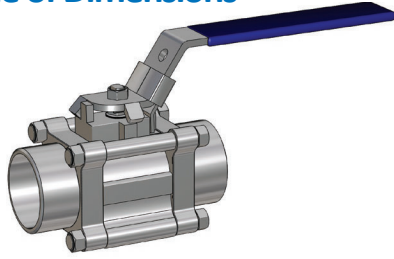
- Dimensions and Drawings are for reference only and are subject to change without prior notice.

- Unless otherwise specified, all dimensions are in millimeters.

- Sizes, pressure classes, and end connections not listed are available upon request.

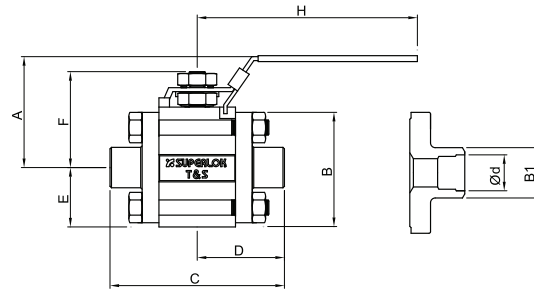
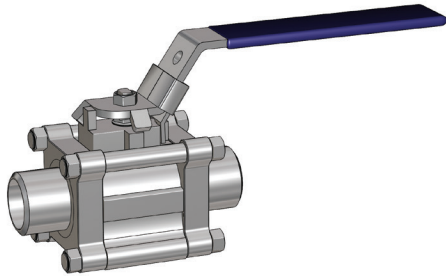
- Dimensions shown with SUPERLOK nuts finger-tight, where applicable.

Table of Dimensions



Socket weld end connections

Part No.	Orifice in.(mm)	Cv	End Connection	Dimension									
				ød	B1	A	B	C	D	E	F	H	K
SWB3201	SW4T	0.188 (4.8)	1.2	1/4 " Socket Weld	6.50	13.70	47.7	33.0	55.4	27.70	16.75	31.8	57.2
	SW6T	0.281 (7.1)	3.8	3/8 " Socket Weld	9.70	17.10							
SWB3202	SW8T	0.411 (10.4)	7.5	1/2 " Socket Weld	12.90	21.30	64.8	44.5	68.9	34.45	22.25	44.2	111.0
	SW12T	0.516 (13.1)	13.6	3/4 " Socket Weld	19.20	26.70							
	SW8P	0.516 (13.1)	15.0	1/2 " Socket Weld	21.80	31.20							
	SW16T		40.0	1 " Socket Weld	25.65	33.40							
SWB3203	SW12P	0.875 (22.2)	36.0	3/4 " Socket Weld	27.20	42.16	79.0	62.0	92.0	46.00	31.00	61.9	149.4
	SW16P		42.0	1 " Socket Weld	33.90	45.30							
	SW20T		80.0	1-1/4 " Socket Weld	32.00	42.20							
SWB3204	SW24T	1.250 (31.8)	100.0	1-1/2 " Socket Weld	38.30		102.0	77.7	112.2	55.6	38.9	79.8	232.0
	SW20P		90.0	1-1/4 " Socket Weld	42.70	62.20			114.4	57.2			
	SW24P		100.0	1-1/2 " Socket Weld	48.80				116.4	58.2			
	SW32T			2 " Socket Weld	51.10	70.10							
SWB3205	SW32P	1.500 (38.1)	130.0	2 " Socket Weld	61.20	75.10	106.0	88.1 86.8	125.4	62.7	44.2 43.2	85.3	232.0
	SW32P			2 " Socket Weld									



Butt weld end connections

Part No.	Schedule	Orifice in.(mm)	Cv	End Connection	Dimension								
					ød	B1	A	B	C	D	E	F	H
SWB3201	BW4P	0.188 (4.8)	1.2	1/4 " Butt Weld	10.40	13.70	47.7	33.0	52.4	26.20	16.75	31.8	57.2
SWB3202	BW8P	0.516 (13.1)	15.0	1/2 " Butt Weld	17.10	21.30	64.8	44.5	68.9	34.45	22.25	44.2	111.0
SWB3203	BW12P	0.875 (22.2)	36.0	3/4 " Butt Weld	22.45	26.67	79.0	62.0	92.0	46.00	31.0	61.9	149.4
SWB3203	BW16P		40.0	1 " Butt Weld	27.90	33.40			88.9	44.45			
SWB3201	BW4P	0.188 (4.8)	1.2	1/4 " Butt Weld	9.20	13.70	47.7	33.0	52.4	26.20	16.75	31.8	57.2
SWB3202	BW8P	0.516 (13.1)	15.0	1/2 " Butt Weld	15.80	21.30	64.8	44.5	68.9	34.45	22.25	44.2	111.0
SWB3203	BW12P	0.875 (22.2)	36.0	3/4 " Butt Weld	20.93	26.67	47.7	62.0	92.0	46.00	31.0	61.9	149.4
SWB3203	BW16P		40.0	1 " Butt Weld	26.60	33.40			88.9	44.45			
SWB3201	BW4P	0.188 (4.8)	1.2	1/4 " Butt Weld	7.70	13.70	79.0	33.0	52.4	26.20	16.75	31.8	57.2
SWB3201	BW6P	0.281 (7.1)	3.8	3/8 " Butt Weld	10.70	17.10							
SWB3202	BW8P	0.411 (10.4)	7.5	1/2 " Butt Weld	13.90	21.30	64.8	44.5	68.9	34.45	22.25	44.2	111.0
SWB3202	BW12P	0.516 (13.1)	13.6	3/4 " Butt Weld	18.80	26.70							
SWB3203	BW16P	0.875 (22.2)	40.0	1 " Butt Weld	23.90	33.40	79.0	62.0	88.9	44.45	31.00	61.9	149.4
SWB3204	BW24P	1.125 (28.6)	100	1-1/2 " Butt Weld	42.70	48.30	102.0	77.7	113.2	56.60	38.90	79.8	232.0
SWB3205	BW32P	1.500 (38.1)	130	2 " Butt Weld	54.80	60.30	106.0	88.1	121.4	60.70	44.20	85.3	
SWB3204	BW24P	1.125 (28.6)	100	1-1/2 " Butt Weld	40.90	48.30	102.0	77.7	113.2	56.60	38.90	79.8	232.0
SWB3205	BW32P	1.500 (38.1)	130	2 " Butt Weld	52.50	60.30	106.0	88.1	123.4	61.70	44.20	85.3	
SWB3204	BW24P	1.125 (28.6)	100	1-1/2 " Butt Weld	38.10	48.30	102.0	77.7	115.8	57.90	38.90	79.8	232.0
SWB3205	BW32P	1.500 (38.1)	130	2 " Butt Weld	49.30	60.30	106.0	88.1	129.6	64.80	44.20	85.3	

- 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.

Mako Products - Superlokworld.com

MAKO
PRODUCTS

844-200-MAKO (6256)
sales@mako-products.net

Ordering Information

Example :

SWB3202 - S 12 - PE - OH

1

2

3

4

5

- 316 Stainless Steel is standard body material.

1. Valve Series

- ☐ SWB3201
- ☐ SWB3202
- ☐ SWB3203
- ☐ SWB3204
- ☐ SWB3205

2. Port Type

- ☐ **S** = SUPERLOK Tube Fitting
- ☐ **F** = Female Thread
- ☐ **BW** = Butt Weld
- ☐ **M** = Male Thread
- ☐ **SW** = Socket Weld
- ☐ **SA** = SANITARY

3. Port Size

Tube O.D Designator

Tube O.D (inch)	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Designator	4	6	8	12	16	20	24	32
Tube O.D (mm)	6	8	10	12	20	25	32	38
Designator	6M	8M	10M	12M	20M	25M	32M	38M

Pipe Thread Designator

Size (inch)	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Screwed BSPT	2R	4R	6R	8R	12R	16R	20R	24R	32R
Screwed NPT	2N	4N	6N	8N	12N	16N	20N	24N	32N

Socket Weld & Butt Weld Designator

Size (inch)	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Tube	4T	6T	8T	12T	16T	20T	24T	32T
Pipe	4P	6P	8P	12P	16P	20P	24P	32P

4. Seat Material

- ☐ **(Blank)** = GLASS15% PTFE (T1)
- ☐ **PE** = PEEK
- ☐ **PT** = PTFE
- ☐ **T2** = GLASS25% PTFE
- ☐ **T3** = CARBON15% PTFE
- ☐ **T4** = CARBON25% PTFE

5. Option

- ☐ **OH** = Oval Handle

Actuator

- ☐ **P1** = Single Acting - 90° Turn
- ☐ **P2** = Single Acting - 180° Turn
- ☐ **P3** = Double Acting - 90° Turn
- ☐ **P4** = Double Acting - 180° Turn

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

Forged High Pressure Ball Valves

SBVF360 Series

Features

- Compact design
- Low operating torques
- Panel mountable
- Floating ball design
- Two-way and Three way types
- Handle direction indicates flow direction



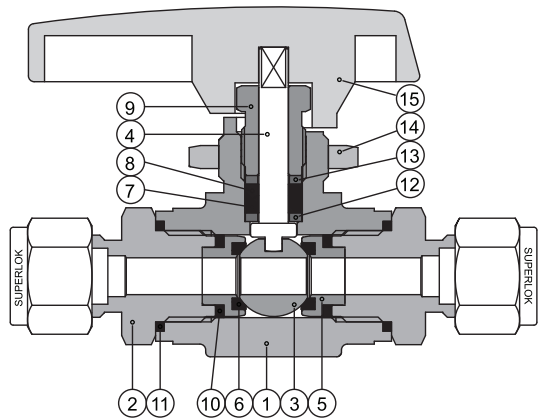
Specifications

Temperature Ratings	316 Stainless Steel	: -65 to 1200°F (-53 to 648°C)
	PCTFE	: -65 to 200°F (-53 to 93°C)
	PTFE	: -65 to 350°F (-53 to 177°C)
	PEEK	: -65 to 450°F (-53 to 232°C)
	NBR	: -40 to 250°F (-40 to 120°C)
	VITON	: -15 to 450°F (-26 to 232°C)
Orifice Size	0.086 to 0.406 in. (2.2 to 10.3mm)	
Flow Coefficients (Cv)	0.18 to 6.42	
End Connection Size	1/8 to 3/4 in. , 3mm to 16mm	
Pressure Ratings at 100°F(37°C)	316 Stainless Steel	: 6000 psig (413 bar)
	BRASS	: 3000 psig (207 bar)

Testing

- Each and every valve is tested with nitrogen at 1000psig (69bar).
- Valve have max allowable leak rate of 0.1 cm3/min.
- Shell testing is performed on demand.

Materials of Construction

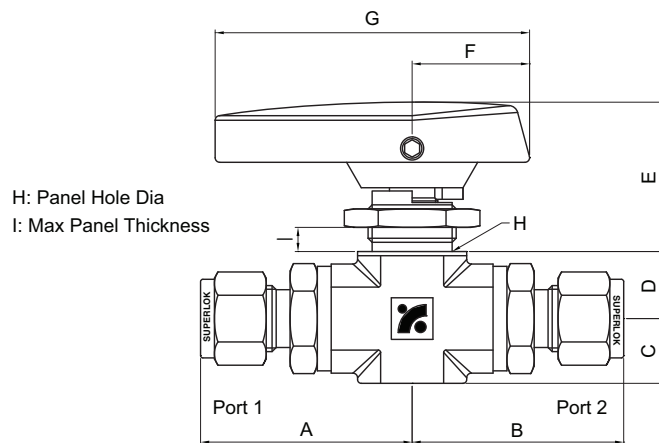


Component		Material Grade / ASTM Specification	
		Stainless Steel	Brass
*1	Body	ASTM A182-F316	ASTM B283
*2	End Connector	ASTM A276-316	ASTM B16
*3	Ball	ASTM A276-316	
*4	Stem	ASTM A276-316	
*5	Seal Retainer	ASTM A276-316	
*6	Seat	Standard PCTFE (PTFE,PEEK)	
*7	Lower Packing	PTFE	
*8	Upper Packing	PTFE	
9	Packing Bolt	ASTM A276-316	
*10	O - Ring	VITON	
*11	Connector Seal	PTFE	
*12	Thrust Washer	PEEK	
13	Stem Washer	ASTM A276-316	
14	Panel Nut	ASTM A276-316	
15	Handle	Aluminum	

* Wetted components



Table of Dimensions



Two - Way Type

SBVF Series

Part No.		Orifice In.(mm)	Cv	End Connections Port1 / Port2	Dimensions								
					A	B	C	D	E	F	G	H	I
SBVF 3601	S2	0.093(2.4)	0.21	1/8" SUPERLOK	34.5	34.5	10.0	10.5	23.5	18.0	47.0	16.3	3.3
	S4	0.165(4.2)	0.93	1/4" SUPERLOK	37.6	37.6							
	S3M	0.086(2.2)	0.18	3mm SUPERLOK	34.8	34.8							
	M2N	0.165(4.2)	0.93	1/8" MALE NPT	29.9	29.9							
	M4N	0.165(4.2)	0.93	1/4" MALE NPT	34.3	34.3							
	F2N	0.165(4.2)	0.93	1/8" FEMALE NPT	27.2	27.2							
SBVF 3602	S4	0.189(4.8)	1.04	1/4" SUPERLOK	44.2	44.2	14.0	14.5	32.3	25.4	68.0	19.6	6.4
	S6	0.250(6.4)	2.34	3/8" SUPERLOK	45.8	45.8							
	S6M	0.189(4.8)	1.04	6mm SUPERLOK	44.5	44.5							
	S8M	0.250(6.4)	2.34	8mm SUPERLOK	45.2	45.2							
	S10M	0.250(6.4)	2.34	10mm SUPERLOK	46.0	46.0							
	M4N	0.250(6.4)	2.34	1/4" MALE NPT	41.1	41.1							
	M6N	0.250(6.4)	2.34	3/8" MALE NPT	41.1	41.1							
	F4N	0.250(6.4)	2.34	1/4" FEMALE NPT	38.4	38.4							
SBVF 3603	S8	0.406(10.3)	6.42	1/2" SUPERLOK	59.4	59.4	17.5	19.3	41.1	27.7	74.2	22.9	9.7
	S12	0.406(10.3)	6.42	3/4" SUPERLOK	59.2	59.2							
	S12M	0.375(9.5)	5.57	12mm SUPERLOK	59.2	59.2							
	S16M	0.406(10.3)	6.42	16mm SUPERLOK	59.2	59.2							
	M8N	0.406(10.3)	6.42	1/2" MALE NPT	56.4	56.4							
	F6N	0.406(10.3)	6.42	3/8" FEMALE NPT	49.5	49.5							
	F8N	0.406(10.3)	6.42	1/2" FEMALE NPT	54.6	54.6							

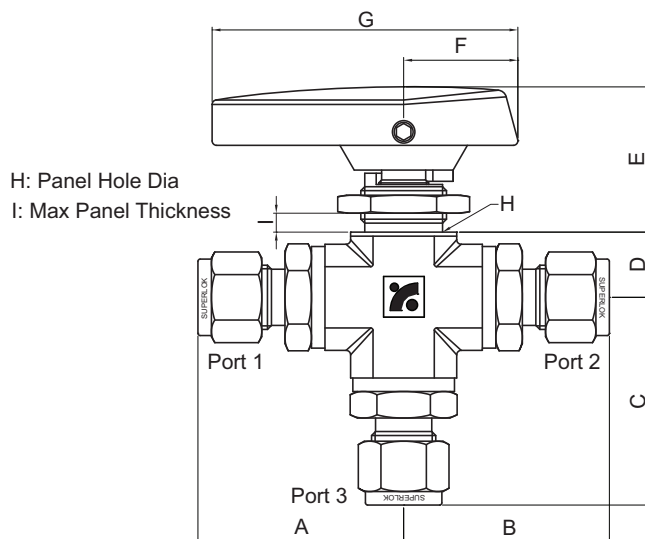
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- Dimensions shown with SUPERLOK nuts finger-tight, where applicable.

Table of Dimensions



Pressure Ratings with port3 as inlet :
Please see Specifications of page 303

Pressure Rating with port 1 or port 2 as inlet :
150 psig (10bar) at 100°F(37°C)

SBVF 3 Series

Part No.		Orifice In.(mm)	Cv	End Connections Port1 / Port2 / Port3	Dimensions								
					A	B	C	D	E	F	G	H	I
SBVF 36013	S2	0.093(2.4)	0.21	1/8" SUPERLOK	34.5	34.5	36.5	10.5	23.5	18.0	47.0	16.3	3.3
	S4	0.165(4.2)	0.63	1/4" SUPERLOK	37.6	37.6	39.6						
	S3M	0.086(2.2)	0.18	3mm SUPERLOK	34.8	34.8	36.8						
	M2N	0.165(4.2)	0.63	1/8" MALE NPT	29.9	29.9	31.9						
	M4N	0.165(4.2)	0.63	1/4" MALE NPT	34.3	34.3	36.3						
	F2N	0.165(4.2)	0.63	1/8" FEMALE NPT	27.2	27.2	29.2						
SBVF 36023	S4	0.189(4.8)	0.70	1/4" SUPERLOK	44.2	44.2	47.7	14.5	32.3	25.4	68.0	19.6	6.4
	S6	0.250(6.4)	0.87	3/8" SUPERLOK	45.8	45.8	49.3						
	S6M	0.189(4.8)	0.70	6mm SUPERLOK	44.5	44.5	48.0						
	S8M	0.250(6.4)	0.87	8mm SUPERLOK	45.2	45.2	48.7						
	S10M	0.250(6.4)	0.87	10mm SUPERLOK	46.0	46.0	49.5						
	M4N	0.250(6.4)	0.87	1/4" MALE NPT	41.1	41.1	44.6						
	M6N	0.250(6.4)	0.87	3/8" MALE NPT	41.1	41.1	44.6						
	F4N	0.250(6.4)	0.87	1/4" FEMALE NPT	38.4	38.4	41.9						
SBVF 36033	S8	0.406(10.3)	3.62	1/2" SUPERLOK	59.4	59.4	68.1	19.3	41.1	27.7	74.2	22.9	9.7
	S12	0.406(10.3)	3.62	3/4" SUPERLOK	59.2	59.2	67.9						
	S12M	0.375(9.5)	3.46	12mm SUPERLOK	59.2	59.2	67.9						
	S16M	0.406(10.3)	3.62	16mm SUPERLOK	59.2	59.2	67.9						
	M8N	0.406(10.3)	3.62	1/2" MALE NPT	56.4	56.4	65.1						
	F6N	0.406(10.3)	3.62	3/8" FEMALE NPT	49.5	49.5	58.2						
	F8N	0.406(10.3)	3.62	1/2" FEMALE NPT	54.6	54.6	63.3						

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Mako Products - Superlokworld.com

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PRODUCTS

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Technical Data

Flow Rate with 1000psig (69bar) Inlet Pressure

Two - Way

Cv	Pressure Drop ΔP , psig (bar)			Pressure Drop ΔP , psig (bar)		
	10 (0.7)	50 (3.5)	100 (6.9)	10 (0.7)	50 (3.5)	100 (6.9)
	Water Flow @ 60°F (16°C), gpm (m³/hr)			Air Flow @ 60°F (16°C), scfm (m³/hr)		
0.93	2.9 (0.7)	6.6 (1.5)	9.3 (2.1)	92.4 (156.2)	200.3 (338.3)	272.0 (458.9)
2.34	7.4 (1.7)	16.5 (3.8)	23.4 (5.3)	231.7 (391.5)	494.2 (834.7)	657.0 (1107.9)
6.42	20.3 (4.6)	45.4 (10.3)	64.2 (14.6)	637.1 (1076.8)	1373.6 (2320.3)	1852.3 (3124.8)

Three - Way

Cv	Pressure Drop ΔP , psig (bar)			Pressure Drop ΔP , psig (bar)		
	10 (0.7)	50 (3.5)	100 (6.9)	10 (0.7)	50 (3.5)	100 (6.9)
	Water Flow @ 60°F (16°C), gpm (m³/hr)			Air Flow @ 60°F (16°C), scfm (m³/hr)		
0.63	2.0 (0.5)	4.5 (1.0)	6.3 (1.4)	62.7 (106.0)	137.1 (231.7)	188.4 (317.9)
0.87	2.8 (0.6)	6.2 (1.4)	8.7 (2.0)	86.7 (146.6)	190.5 (321.8)	263.2 (444.4)
3.62	11.5 (2.6)	25.6 (5.9)	36.2 (8.2)	360.6 (609.5)	789.7 (1343.5)	1087.4 (1836.6)

Ordering Information

Example 1 : **SBVF3602 - M6N - S6 - PE - B**

1 2 3 2 3 4 5

Example 2 : **SBVF36023 - S4 - S6 - F4N**

1 2 3 2 3 2 3

Port 1 Port 2 Port 3

1. Valve Series

Two - Way

- ☐ SBVF3601
- ☐ SBVF3602
- ☐ SBVF3603

Three - Way

- ☐ SBVF36013
- ☐ SBVF36023
- ☐ SBVF36033

2. Port Type

- ☐ S = SUPERLOK Tube Fitting
- ☐ M = Male Pipe Thread
- ☐ F = Female Pipe Thread

3. Port Size

Tube O.D Designator

Tube O.D (inch)	1/16	1/8	1/4	3/8	1/2	3/4
Designator	1	2	4	6	8	12
Tube O.D (mm)	3	6	8	10	12	16
Designator	3M	6M	8M	10M	12M	16M

Pipe Thread Designator

Size (inch)	1/8	1/4	3/8	1/2	3/4
Screw NPT	2N	4N	6N	8N	12N
Screw BSPT	2R	4R	6R	8R	12R

4. Seat Material

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

5. Body Material

- ☐ (Blank) = 316 Stainless Steel
- ☐ B = Brass

Plug Valves

SPV130 Series

Features

- Pressure Rating up to 3000psig (206 bar) @100°F(37°C)
- Temperature rating -10 to 400°F (-23 to 204°C)
- Simple design with one piece body
- 316 stainless steel body materials
- Panel mountable
- Various end connector
- Straight through flow path
- Replaceable plug assembly
- Easy to clean and maintain

Testing

Every plug valve is factory tested for shutoff at 600 psig (41.3bar)

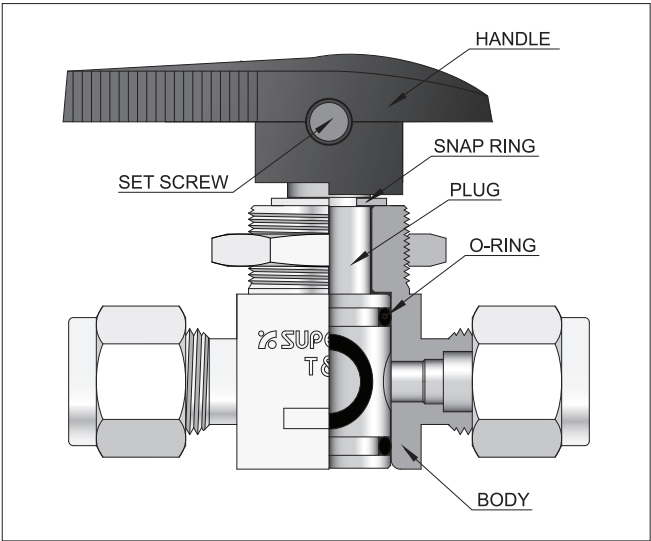
Technical Data

Materials of Construction

Component	Material Grade
*Body	SS316
*Plug	PTFE-coated SS316
*O-rings	VITON
Handle	Aluminum
Set Screw	Stainless Steel
Snap Ring	Stainless Steel

* Wetted components

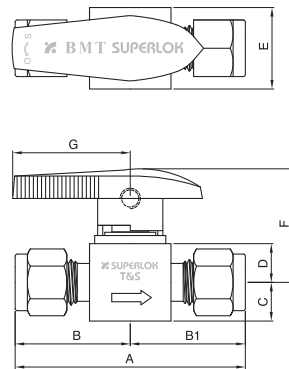
※ Differential pressure is limited to 150 psig maximum if reverse flow occurs
Reverse-flow throttling may be damage o-ring



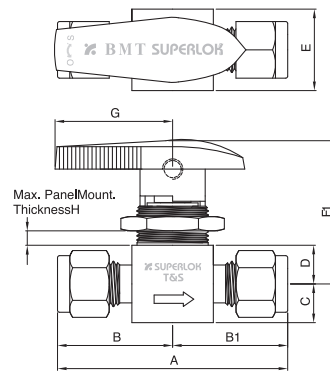
Pressure-Temperature Rating

Series	SPV131,SPV132	SPV131	SPV132
Material	316SS	Brass	
Temperature, °F(°C)	Working Pressure, psig (bar)		
-10 (-23) to 100 (37)	3000 (206)	3000 (206)	2000 (137)
150 (65)	3000 (206)	2500 (172)	2000 (137)
200 (93)	3000 (206)	2000 (137)	2000 (137)
250 (121)	2000 (137)	1500 (103)	1500 (103)
300 (148)	1000 (68.9)	1000 (68.9)	1000 (68.9)
350 (176)	1000 (68.9)	1000 (68.9)	1000 (68.9)
400 (204)	1000 (68.9)	400 (27.5)	400 (27.5)

Table of Dimensions



Standard Style



Panel Mounting Style

Part No.		Orifice	CV	End Connection		Dimensions									
				Inlet	Outlet	A	B	B1	C	D	E	F	F1	G	H
SPV131	F2N	4.4	1.2	1/8" Female NPT		45.2	22.6	22.6	9.5	9.5	20.0	27.9	35.5	28.9	6.4
	F4N		0.9	1/4" Female NPT		53.1	26.6	26.6							
	M4N-F4N		0.9	1/4" Male NPT	1/4" Female NPT	50.8	24.2	26.6							
	M2N		1.0	1/8" Male NPT		39.0	19.5	19.5							
	M4N		1.0	1/4" Male NPT		48.4	24.2	24.2							
	M4N-S4		0.9	1/4" Male NPT	1/4" SUPERLOK	51.2	24.2	27.6							
	S2	2.3	0.1	1/8" SUPERLOK		50.5	25.3	25.3							
	S4	4.4	1.6	1/4" SUPERLOK		55.1	27.6	27.6							
	S6M		1.6	6mm SUPERLOK		55.1	27.6	27.6							
SPV132	F4N	7.2	4.3	1/4" Female NPT		60.5	30.3	30.3	14.0	14.0	30.0	41.6	53.2	51.7	9.4
	F8N		2.7	1/2" Female NPT		73.2	36.6	36.6							
	M8N		2.4	1/2" Male NPT		67.1	33.5	33.5							
	S8M		6.4	8mm SUPERLOK		67.6	33.8	33.8							
	S10M		6.4	10mm SUPERLOK		68.1	34.1	34.1							
	S12M		4.8	12mm SUPERLOK		75.2	37.6	37.6							
	S6		6.4	3/8" SUPERLOK		67.6	33.8	33.8							
	S8		4.4	1/2" SUPERLOK		73.2	36.6	36.6							

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- Dimensions shown with SUPERLOK nuts finger-tight, where applicable.

Ordering Information

Example : **SPV131 - S 4 - B**
1 2 3 4

* 316 Stainless Steel is Standard Body Material.

1. Valve Series

- ☐ SPV131
☐ SPV132

2. End Connection

- ☐ S = SUPERLOK Tube Fitting
☐ F = Female Thread
☐ M = Male 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. Material

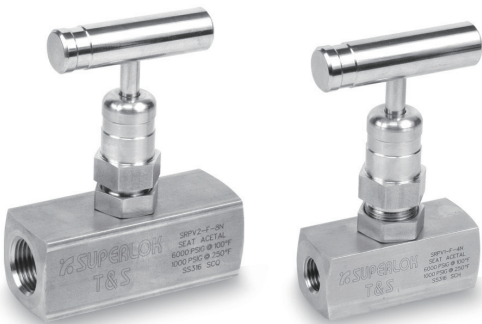
- ☐ SS (Blank): 316 Stainless Steel
☐ B : Brass

Rising Plug Valves

SRPV Series

Features

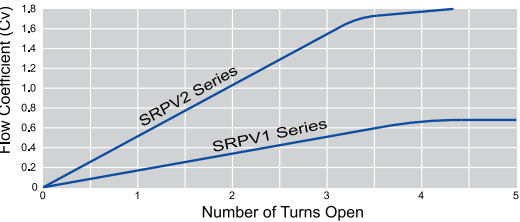
- Non-rotating stem tip
- Straight-through orifice for maximum flow
- Stem dust seal protects threads from external contamination
- Replaceable seals, seat and stem tip
- Panel mounting option
- Gauge port option



Specifications

Pressure rating	6000psig (413bar) @100°F(37°C)
Temperature rating	-20 to 400°F (-28 to 204 °C)
Body material	316 stainless steel
Orifice	4.8mm, 6.4mm

Flow Data at 100°F (37°C)



Testing

Each Valve is tested with nitrogen at 1000psig(69bar) to maximum allowable leak rate of 0.1 SCCM.

Technical Data

Pressure - Temperature Ratings

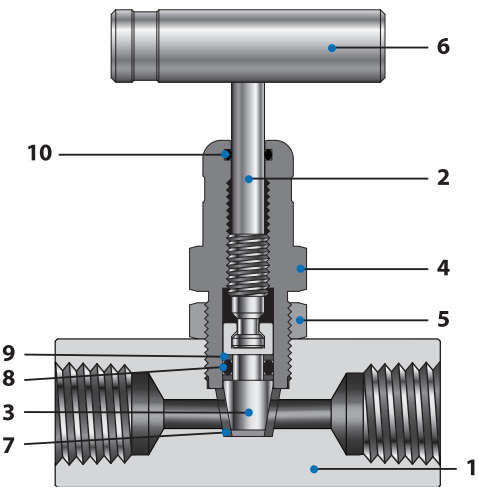
Body Material	316 Stainless Steel	
	Acetal	PEEK
Seat Material	Working Pressure, psig (bar)	
Temperature Rating °F (°C)		
-20 to 100 (-28 to 37)	6000 (413)	6000 (413)
200 (93)	2650 (182)	3000 (206)
250 (121)	1000 (68.9)	1600 (110)
300 (148)	-	1300 (89.5)
350 (176)	-	1200 (82.6)
400 (204)	-	1000 (68.9)

Temperature Ratings

O-ring Material	Temperature Rating °F (°C)
* VITON	-20 to 400 (-28 to 204)
Buna-N	-20 to 250 (-28 to 121)
Ethylene Propylene	-20 to 250 (-28 to 121)
Kalrez	-20 to 400 (-28 to 204)

* Viton O-ring is standard.

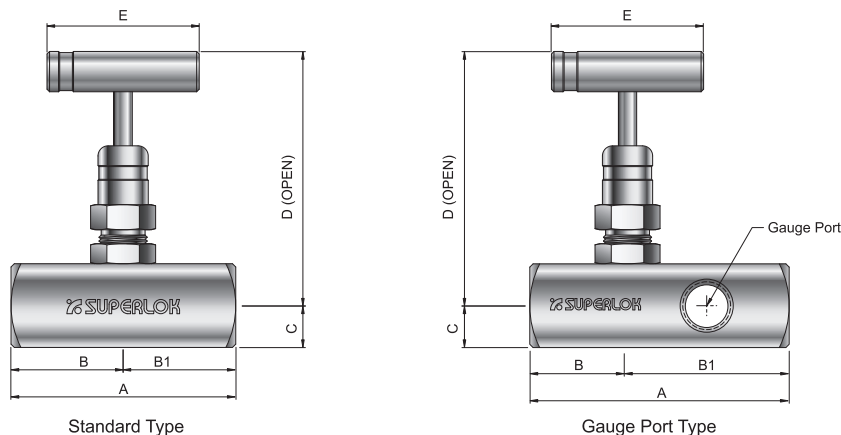
Materials of Construction



No.	Component	Material Grade / ASTM Specification
		Stainless Steel
*1	Body	A276-316
2	Stem	A276-316
*3	Stem tip	A276-316
*4	Bonnet	A276-316
5	Lock Nut	A276-316
6	Handle	A276-316
*7	Seat	Acetal
*8	Stem Seal	Viton
*9	Back-up Ring	PTFE
10	Dust Seal	Viton

* Wetted components

Table of Dimensions



Part No.		Orifice	Cv	End Connections		Dimensions					
				Port 1	Port 2	A	B	B1	C	D	E
SRPV1	F4N	4.8	0.63	1/4" Female NPT		62.0	31.0	31.0	12.7	96.3	60.0
	M4N-F4N			1/4" Male NPT	1/4" Female NPT	76.2	45.2				
	M8N-F4N			1/2" Male NPT	1/4" Female NPT	81.1	50.1				
SRPV1-G4N	F4N	4.8	0.63	1/4" Female NPT		78.0	31.0	47.0	12.7	96.3	
	M8N-F4N			1/2" Male NPT	1/4" Female NPT	97.1	50.1				
SRPV2	F8N	6.4	1.80	1/2" Female NPT		84.0	42.0	42.0	16.0	96.9	
	M8N-F8N			1/2" Male NPT	1/2" Female NPT	103.1	61.1				
	M12N-F8N			3/4" Male NPT	1/2" Female NPT	103.1	61.1				
SRPV2-G8N	F8N	6.4	1.80	1/2" Female NPT		107.4	42.0	65.4	16.0	96.9	
	M8N-F8N			1/2" Male NPT	1/2" Female NPT	126.5	61.1				
	M12N-F8N			3/4" Male NPT	1/2" Female NPT	126.5	61.1				

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Ordering Information

Example : **SRPV1 - F4N - PE - EP - P**

1
2 3
4
5
6

• 316 Stainless Steel is standard body material.

1. Valve Series

- ☐ **SRPV1** = Without gauge port
- ☐ **SRPV1-G4N** = Gauge port 1/4" NPT
- ☐ **SRPV2** = Without gauge port
- ☐ **SRPV2-G8N** = Gauge port 1/2" NPT

2. Port Type

- ☐ **M** = Male Pipe Thread
- ☐ **F** = Female Pipe Thread

3. Port Size

Pipe Thread Designator

Size (inch)	1/4	1/2	3/4
Screwed NPT	4N	8N	12N
Screwed BSPT	4R	8R	12R

4. Seat Material

- ☐ **(Blank)** = Acetal (Standard)
- ☐ **PE** = PEEK

5. O-ring Material

- ☐ **(Blank)** = Viton (Standard)
- ☐ **N** = Buna N
- ☐ **EP** = Ethylene propylene (EPDM)
- ☐ **KAL** = Kalrez

6. Panel Mounting

- ☐ **(Blank)** = Without Panel Mounting (Standard)
- ☐ **P** = Panel Mounting Type