



Swing - Out Ball Valves

High Technology Valve & Fitting Series



BMT Co., Ltd.
www.superlok.com

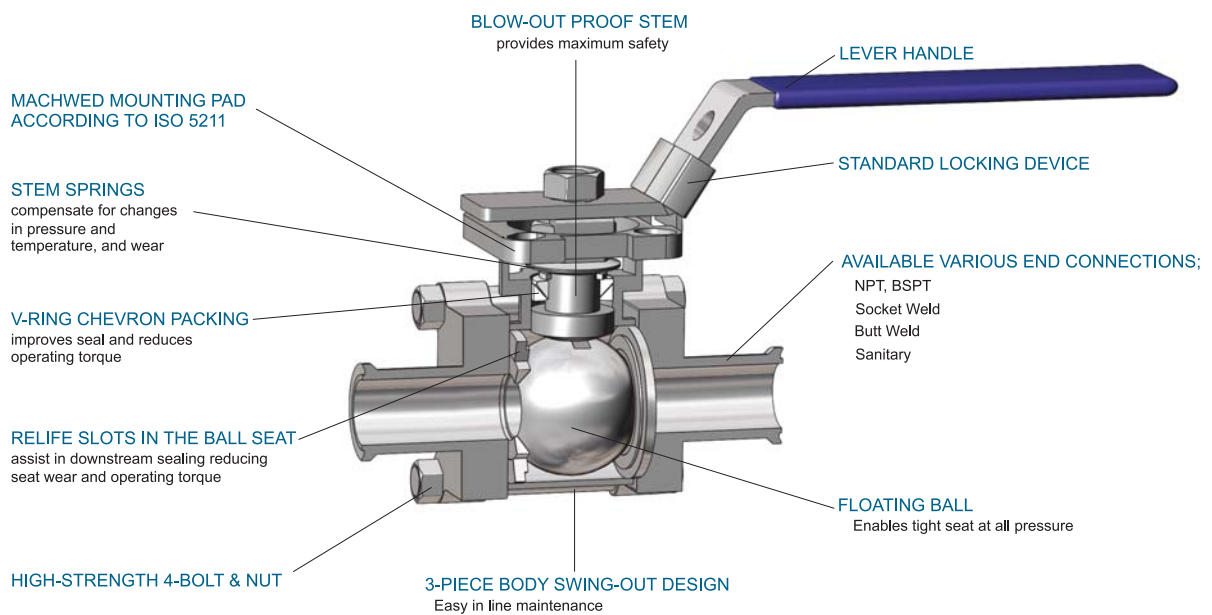
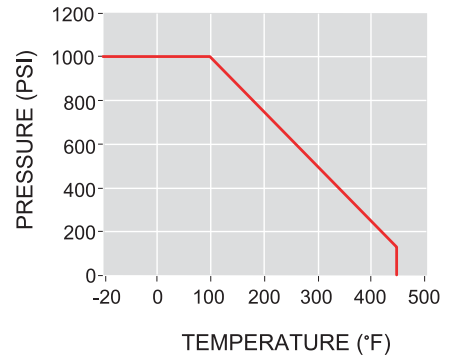
SWB 310 SERIES

SPECIFICATION

- Pressure Rating up to 1000 psig (69 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.



MATERIALS OF CONSTRUCTION

Component	Material	Q' TY
1 Body	ASTM A351GR/CF8M	1
2 End Cap	ASTM A351GR/CF8M	2
3 Ball	SS 316	1
4 Ball Seal	PTFE	2
5 Flange Seal	PTFE	2
6 Stem	SS316	1
7 Stem Seal	PTFE	1
8 Upper/Lower Packing	PTFE	1
9 Packing Gland	SS304	1
10 Handle Nut	STRAIN HARDNED 316	1
11 Disc Spring	SS304	2
12 Stem Nut	SS304	1
13 Handle	SS304	1
14 Locking Device	SS304	1
15 Stem Nut Lock	SS304	1
16 Flange Bolt	SS304	4
17 Flange Nut	SS304	4

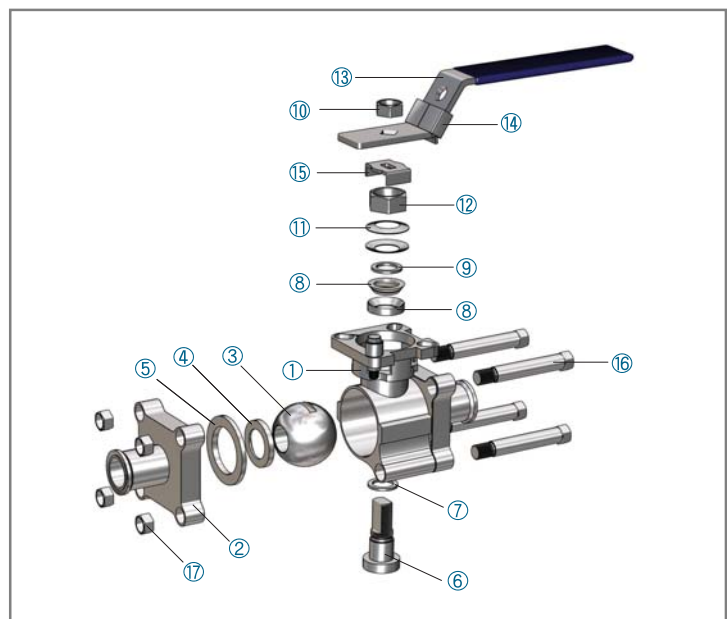
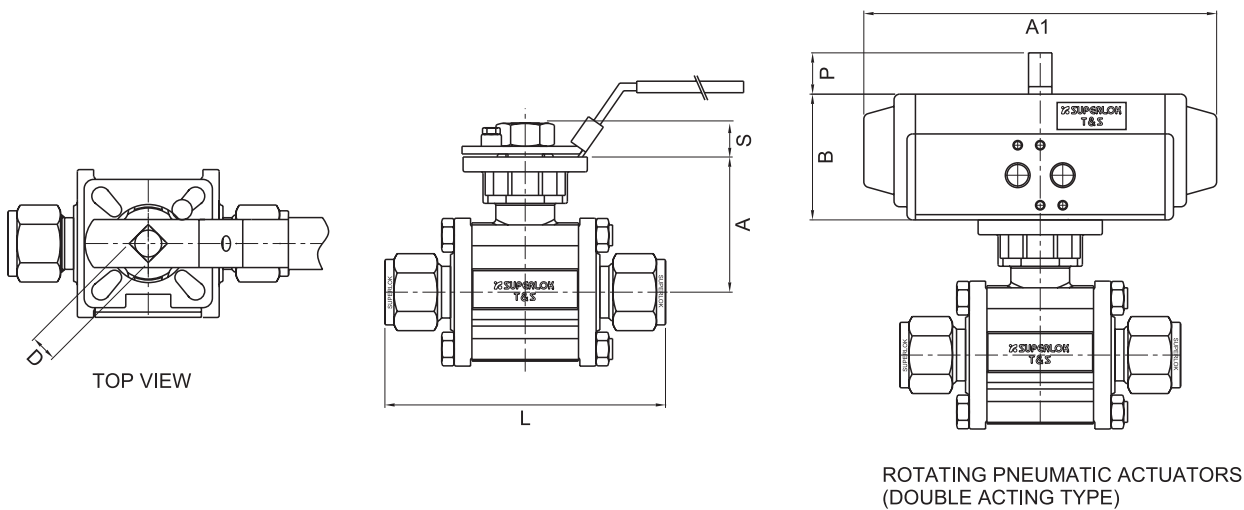
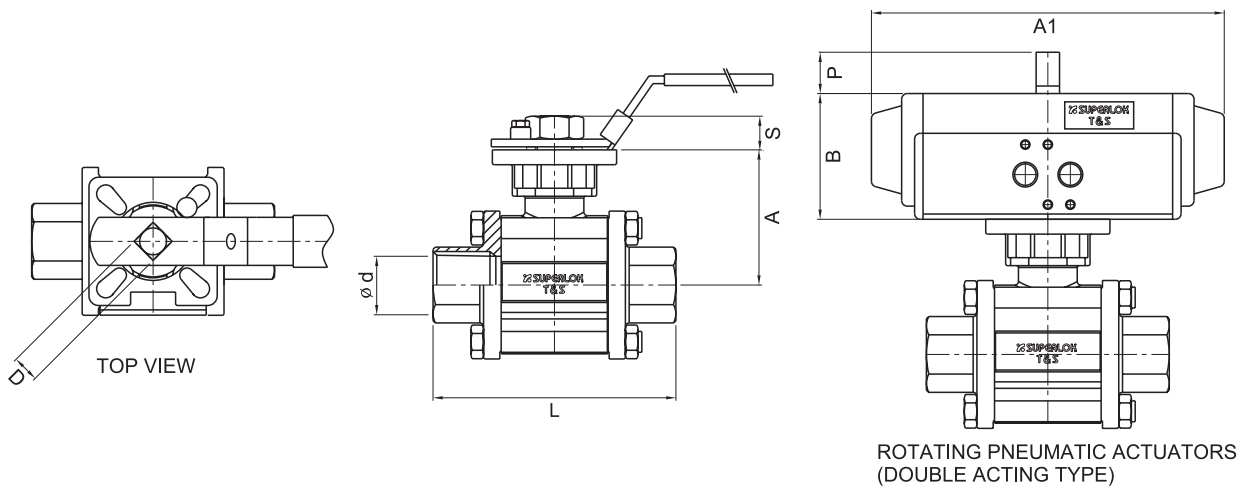


TABLE OF DIMENSIONS



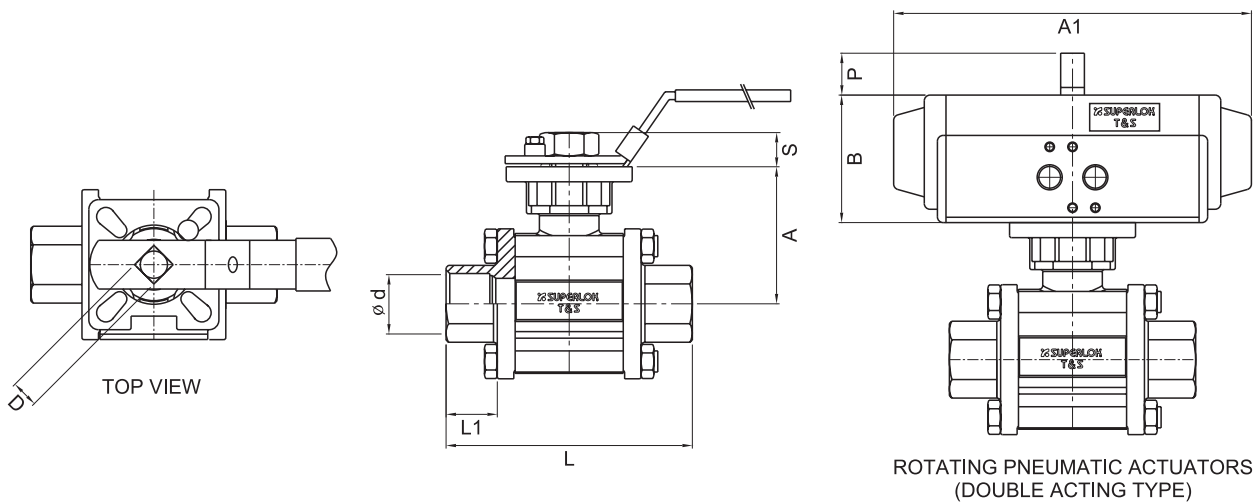
■ SUPERLOK TUBE END CONNECTIONS

Ordering Number		SIZE	Dimension (mm)								
Series	Part NO.		A	S	D	L	A1	B	P		
SWB	3101	SW	4	1/4 " SUPERLOK	39.0	8.5	9	72.6	188	67	20
			6	3/8 " SUPERLOK				74.2			
			8	1/2 " SUPERLOK				75.6			
	3102	12	3/4 " SUPERLOK	43.0	86.0						
	3103	16	1 " SUPERLOK	53.0	11.4	104.0					



■ FEMALE PIPE THREAD END CONNECTIONS

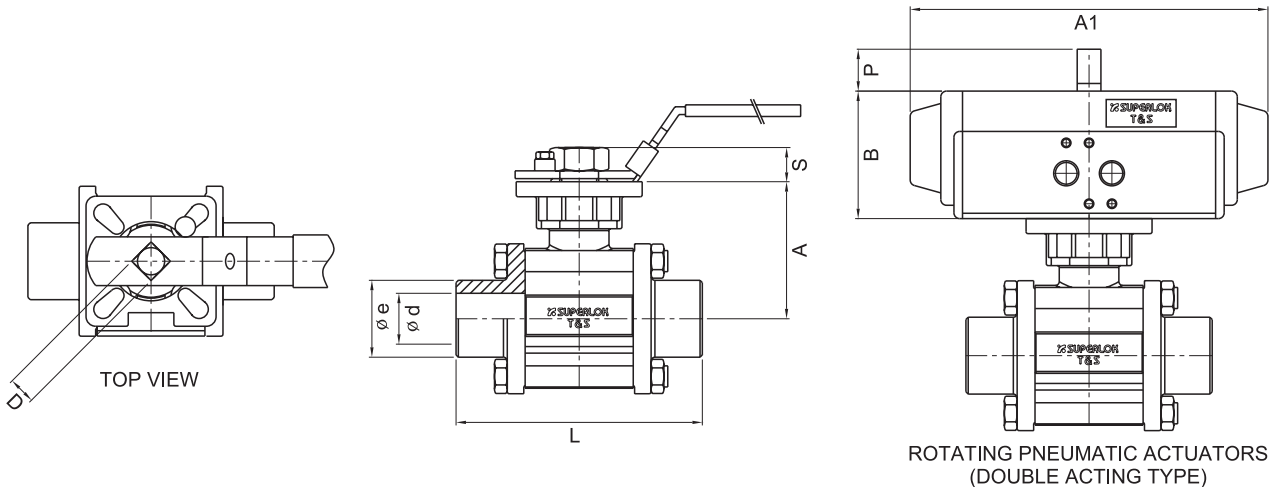
Ordering Number		SIZE	Dimension (mm)								
Series	Part NO.		A	S	D	ϕd	L	A1	B	P	
SWB	3101	F	4N	1/4 "	39.0	8.5	9	11.5	188	67	20
			6N	3/8 "				12.5			
			8N	1/2 "				15.0			
	3102	12N	3/4 "	43.0	20.0	72.5					
	3103	16N	1 "	53.0	11.4	25.0	81.0				
	3104	24N	1-1/2 "	70.0	14.0	11	38.0	108.0	234	86	
	3105	32N	2 "	78.0	13.7	14	50.0	121.5			



ROTATING PNEUMATIC ACTUATORS
(DOUBLE ACTING TYPE)

■ SOCKET WELD END CONNECTIONS

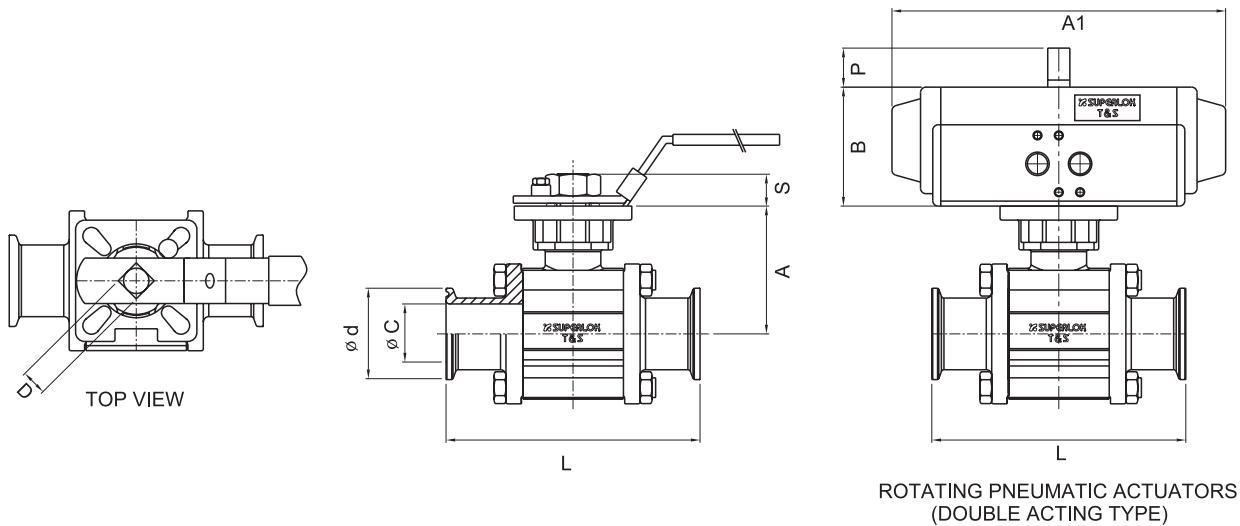
Ordering Number			SIZE	Dimension (mm)									
Series	Part NO.			A	S	D	ϕd	L	L1	A1	B	P	
SWB	3101	SW	4	1/4"	39.0	8.5	9	14.1	63.5	10	188	67	20
			6	3/8"				17.6					
			8	1/2"				21.7					
	3102	12	3/4"	43.0	11.4	27.3	72.5	13					
	3103	16	1"	53.0		34.1	81.0						
	3104	24	1 1/2"	70.0	14.0	11	48.7	108.0	16	234	86		
3105	32	2"	78.0	13.7	14	61.0	121.5						



ROTATING PNEUMATIC ACTUATORS
(DOUBLE ACTING TYPE)

■ BUTT WELD END CONNECTIONS

Ordering Number			SIZE	Dimension (mm)									
Series	Part NO.			A	S	D	ϕd	L	ϕe	A1	B	P	
SWB	3101	BW	4	1/4"	39.0	8.5	9	11.6	62.5	16.2	188	67	20
			6	3/8"				12.7		17.5			
			8	1/2"				15.0		22.7			
	3102	12	3/4"	43.0	11.4	20.0	76.2	27.5					
	3103	16	1"	53.0		25.0	86.0	33.5					
	3104	24	1 1/2"	70.0	14.0	11	38.0	119.0	48.6	16	234	86	
3105	32	2"	78.0	13.7	14	50.0	131.4	60.5					



■ **SANITARY END CONNECTIONS**

Ordering Number			SIZE	Dimension (mm)									
Series	Part NO.			A	S	L	Ø C	Ø d	D	A1	B	P	
SWB	3101	SA	8	1/2 "	39.0	9	89.0	9.5	25.4	9	188	67	20
	3102		12	3/4 "	43.0	9	102.0	13.1	25.4	9			
	3103		16	1 "	53.0	11	124.0	22.2	50.4	11			
	3104		24	1 1/2 "	70.0	14	141.0	35.0	50.4	14	234	86	
	3105		32	2 "	78.0	14	162.0	47.6	63.9	14			

OPTIONS

ACTUATION

We can provide pneumatic actuation package as optional item with following features

- Direct mounted actuator
- Reducing package device
- ※ If require actuator as option, add A to the end of ordering number
Ex)SWB3105-SA-32-A

BODY CAVITY FILLERS

Body cavity fillers are designed to fill the cavity of the valve between the body and ball. Cavity fillers minimize problems with trapped fluid in the valve body that could contaminate the process or prevent smooth operation of the valve.

- ※ If require body cavity filler as option, add BCF to the end of ordering number
Ex)SWB3105-SA-32-BCF



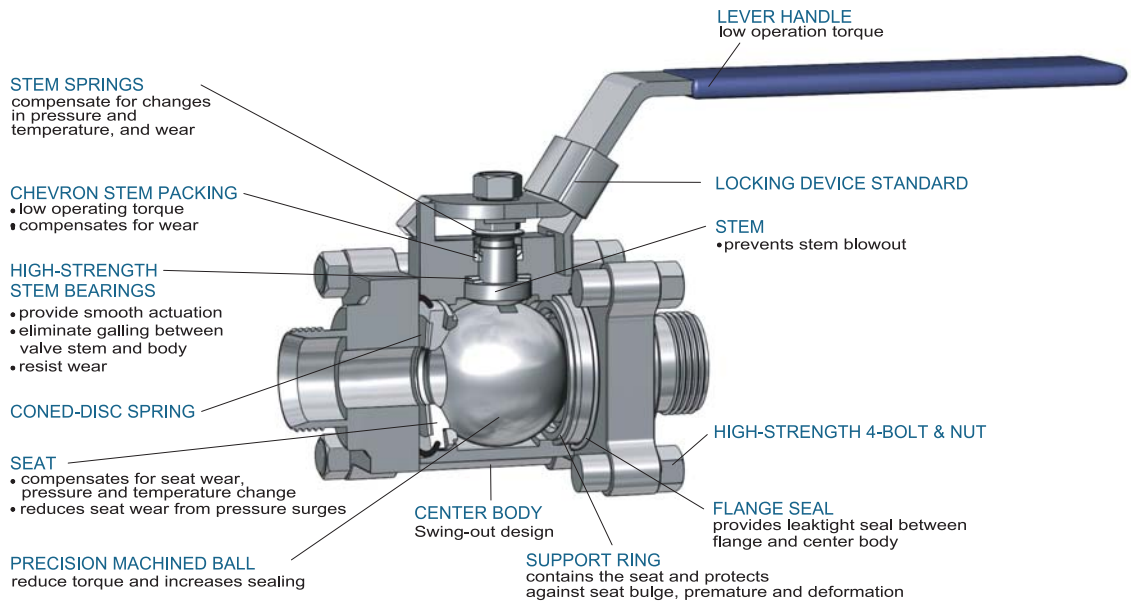
SWB 320 SERIES

SPECIFICATION

- 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

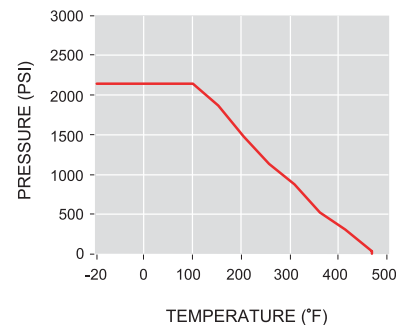
- Each valve is tested with nitrogen at 1000 psig (69 bar) to maximum allowable leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times the working pressure.



PRESSURE/TEMPERATURE RATING

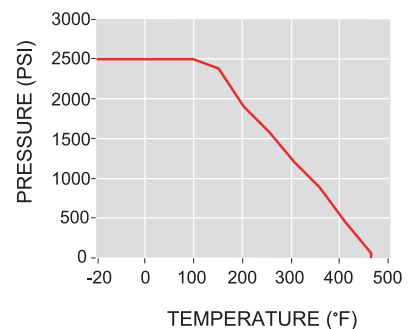
■ REINFORCED PTFE SEATS (R-PTFE) : STANDARD

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)



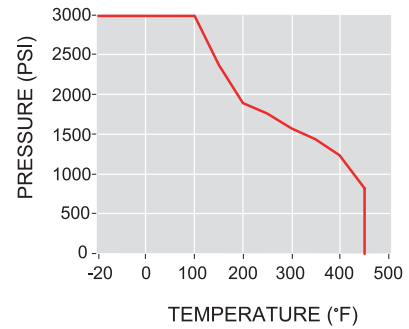
To order option item, add C to the end of ordering number.

PRESSURE/TEMPERATURE RATING

■ 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)

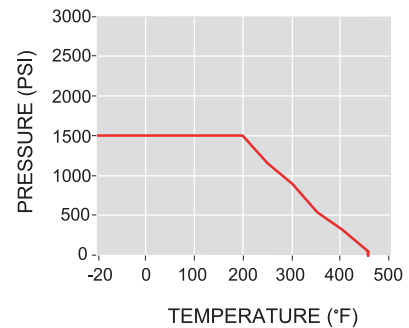
To order option item, add P to the end of ordering number.



■ 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)

To order option item, add V to the end of ordering number.



■ MATERIALS OF CONSTRUCTION

Component	Valve Body Materials		Q' TY
	Material / ASTM Specification		
1	Body	CF8M / A351	1
2	Ball	SS 316 / A479	1
3	Support ring	SS 316 / A479	2
4	Seats	Reinforced PTFE	2
5	Seat spring	Strain Hardned 316 SS / A240	2
6	Flange seal	PTFE	2
7	Flange	CF8M / A351 or SS 316 / A479	2
8	Stem	SS 316 / A479	1
9	Stem bearing	Alloy X750	1
10	Lower packing	Reinforced PTFE	1
11	Upper packing		1
12	Packing support	PEEK	1
13	Packing gland	SS 316 / A479	1
14	Stem spring	Strain Hardned 316	2
15	Packing nut	Stainless Steel	2
16	Stem nut lock		1
17	Handle		1
18	Locking device		1
19	Tooth washer		1
20	Flange bolt	SS304	4
21	Flange nut	SS304	4

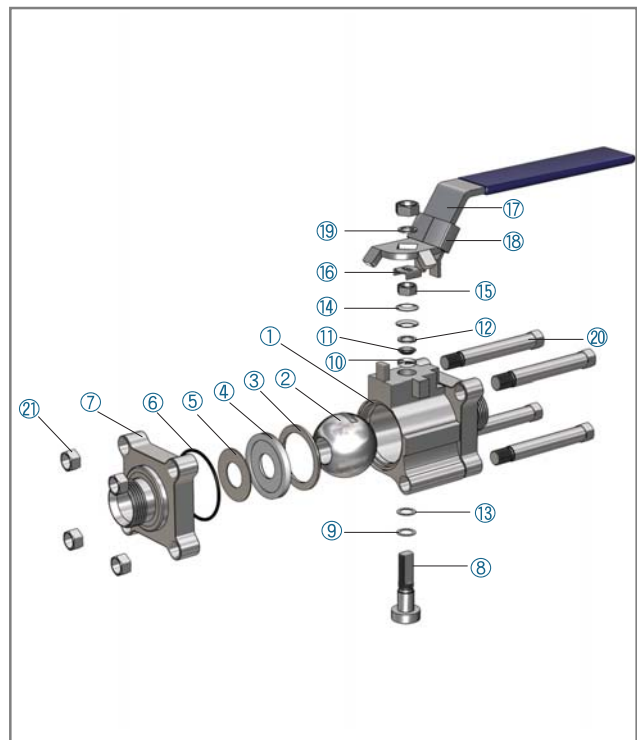
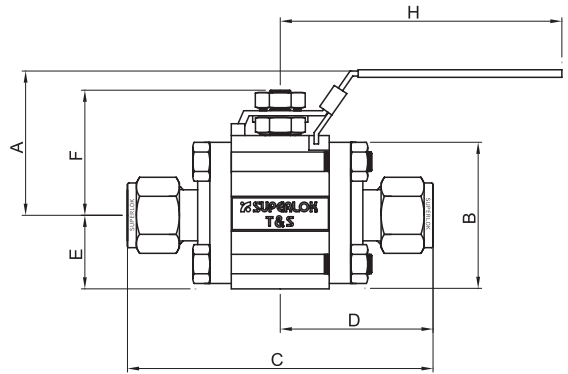
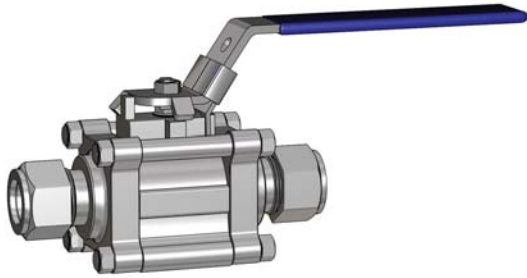
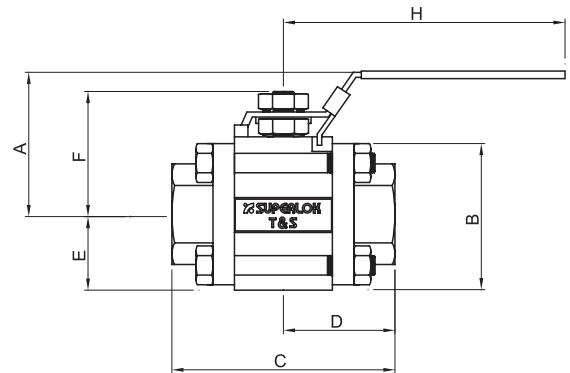
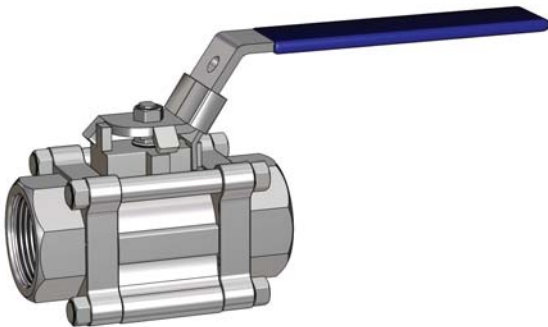


TABLE OF DIMENSIONS



■ SUPERLOK TUBE END CONNECTION

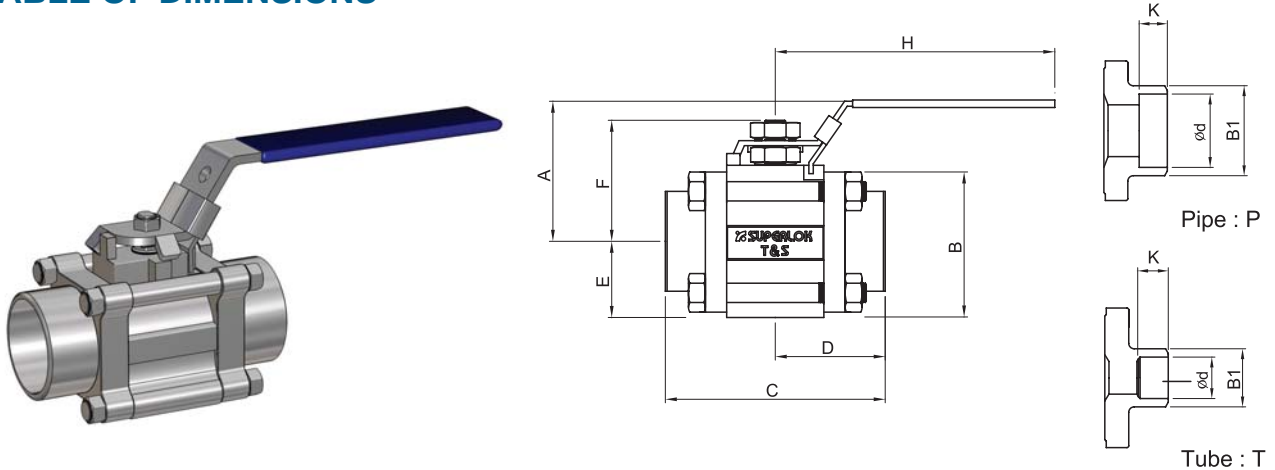
Ordering Number		Orifice in. (mm)	Cv	End Connection	Dimension (mm)							
Series	Part NO.				A	B	C	D	E	F	H	
SWB3201	S	4	0.188 (4.8)	1.2	1/4 " Superlok	47.7	33.0	80.8	40.40	16.75	31.8	57.2
		6	0.281 (7.1)	3.8	3/8 " Superlok							
		6M	0.188 (4.8)	1.2	6mm Superlok							
		8M	0.250 (6.4)	2.5	8mm Superlok							
		10M	0.281 (7.1)	3.8	10mm Superlok							
SWB3202	S	8	0.411 (10.4)	7.5	1/2 " Superlok	64.8	44.5	103.8	51.90	22.25	44.2	111.0
		12	0.516 (13.1)	13.6	3/4 " Superlok							
		12M	0.411 (10.4)	7.5	12mm Superlok							
SWB3203	S	16	0.875 (22.2)	40.0	1 " Superlok	79.0	62.0	136.7	68.35	31.0	61.9	149.4
		25M			25mm Superlok							



■ FEMALE PIPE THREAD END CONNECTIONS

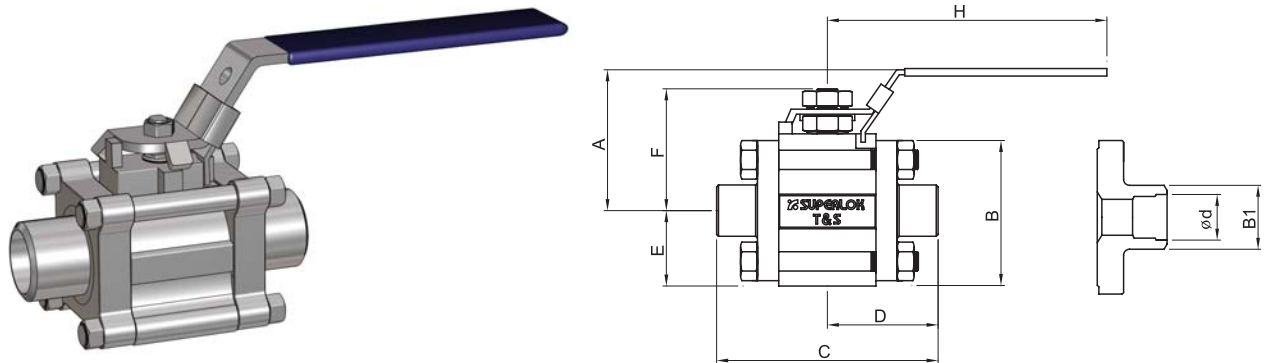
Ordering Number		Orifice in. (mm)	Cv	End Connection	Dimension (mm)							
Series	Part NO.				A	B	C	D	E	F	H	
SWB3201	F	0.281 (7.1)	3.8	1/8 " Female NPT	47.7	33.0	55.4	27.70	16.75	31.8	57.2	
				4N								1/4 " Female NPT
				4R								1/4 " Female PT
SWB3202	F	0.516 (13.1)	12.0	3/8 " Female NPT	64.8	44.5	68.9	34.45	22.25	44.2	111.0	
				6N								1/2 " Female NPT
				8N								1/2 " Female PT
SWB3203	F	0.875 (22.2)	40.0	3/4 " Female NPT	79.0	62.0	92.0	46.0	31.0	61.9	149.4	
				12N								1 " Female NPT
				16N								3/4 " Female PT
				12R								1 " Female PT

TABLE OF DIMENSIONS



■ SOCKET WELD END CONNECTIONS

Ordering Number		Orifice in. (mm)	Cv	End Connection	Dimension (mm)									
Series	Part NO.				ø d	B1	A	B	C	D	E	F	H	K
SWB3201	4T	0.188 (4.8)	1.2	1/4 " Soket Weld	6.50	13.70	47.7	33.0	55.4	27.70	16.75	31.8	57.2	7.1
	6T	0.281 (7.1)	3.8	3/8 " Soket Weld	9.70	17.10								7.9
SWB3202	8T	0.411 (10.4)	7.5	1/2 " Soket Weld	12.90	21.30	64.8	44.5	68.9	34.45	22.25	44.2	111.0	9.7
	12T	0.516 (13.1)	13.6	3/4 " Soket Weld	19.20	26.70								11.2
	8P	0.516 (13.1)	15.0	1/2 " Soket Weld	21.80	31.20								9.7
SWB3203	16T	0.875 (22.2)	40.0	1 " Soket Weld	25.65	33.40	79.0	62.0	92.0	46.00	31.00	61.9	149.4	16.0
	12P		36.0	3/4 " Soket Weld	27.20	42.16								12.7
	16P		42.0	1 " Soket Weld	33.90	45.30								



■ BUTT WELD END CONNECTIONS

Ordering Number		Schedule	Orifice in. (mm)	Cv	End Connection	Dimension (mm)															
Series	Part NO.					ø d	B1	A	B	C	D	E	F	H							
SWB3201	4P	10	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	8P		0.516 (13.1)	15.0	1/2 " Butt Weld	17.10	21.30														
SWB3203	12P		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	16P			40.0	1 " Butt Weld	27.90	33.40														
SWB3201	4P	40	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	8P		0.516 (13.1)	15.0	1/2 " Butt Weld	15.80	21.30														
SWB3203	12P		0.875 (22.2)	36.0	3/4 " Butt Weld	20.93	26.67								79.0	62.0	92.0	46.00	31.0	61.9	149.4
SWB3203	16P			40.0	1 " Butt Weld	26.60	33.40														
SWB3201	4P	80	0.188 (4.8)	1.2	1/4 " Butt Weld	7.70	13.70	47.7	33.0	52.4	26.20	16.75	31.8	57.2							
SWB3201	6P		0.281 (7.1)	3.8	3/8 " Butt Weld	10.70	17.10														
SWB3202	8P		0.411 (10.4)	7.5	1/2 " Butt Weld	13.90	21.30														
SWB3202	12P		0.516 (13.1)	13.6	3/4 " Butt Weld	18.80	26.70														
SWB3203	16P		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

SUPERLOK TUBE FITTINGS

- **APPLICATIONS**
INSTRUMENTATION,
HIGH PRESSURE
AND TEMPERATURE,
CRYOGENIC SERVICE
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 9000 psig @100 °F(38°C)
OPERATING TEMPERATURE RANGE
: -325 °F(-198°C) TO 1200 °F(648°C)



BITE TYPE TUBE FITTINGS (DIN 2353)

- **APPLICATIONS**
HYDRAULIC, PNEUMATIC,
LUBRICATION
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 100-630 barg @100 °F(38°C)
OPERATING TEMPERATURE RANGE
: 800 °F(427°C)



INSTRUMENT THREAD FITTINGS



- **APPLICATIONS**
INSTRUMENTATION, GENERAL SERVICE
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 10000 psig @100 °F(38°C)
OPERATING TEMPERATURE RANGE
: -325 °F(-198°C) TO 1200 °F(648°C)

BALL VALVE 120 SERIES

- **APPLICATIONS**
INSTRUMENT AIR LINE, REFINERY PILOT PLANT
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 2500 psig @70 °F(21°C)
OPERATING TEMPERATURE RANGE
: 50 °F(10°C) TO 150 °F(65°C)



BALL VALVE 210 SERIES

- **APPLICATIONS**
MULTI-PURPOSE, PNEUMATIC SYSTEM
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 1000 psig @70 °F(21°C)
OPERATING TEMPERATURE RANGE
: -65 °F(-54°C) TO 450 °F(232°C)



BALL VALVE 360 SERIES

- **APPLICATIONS**
HIGH PRESSURE INSTRUMENT LINES
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 10000 psig @70 °F(21°C)
OPERATING TEMPERATURE RANGE
: -22 °F(-30°C) TO 265 °F(130°C)



PLUG VALVES



- **APPLICATIONS**
INSTRUMENT AIR LINE,
PILOT PLANT
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 3000 psig @70 °F(21°C)
OPERATING TEMPERATURE RANGE
: -10 °F(-23°C) TO 400 °F(204°C)

MANIFOLD VALVES



- **APPLICATIONS**
PRESSURE & DIFFERENTIAL
PRESSURE INSTRUMENTATION
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 6000 psig @100 °F(38°C)
OPERATING TEMPERATURE RANGE
: -65 °F(-54°C) TO 450 °F(232°C)

INTEGRAL BONNET NEEDLE VALVES

- **APPLICATIONS**
GENERAL SERVICE,
INSTRUMENT ISOLATION
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 5000 psig @100 °F(38°C)
OPERATING TEMPERATURE RANGE
: -65 °F(-54°C) TO 450 °F(232°C)



UNION BONNET NEEDLE VALVES

- **APPLICATIONS**
HIGH TEMPERATURE AND PRESSURE
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 6000 psig @100 °F(38°C)
OPERATING TEMPERATURE RANGE
: -65 °F(-54°C) TO 1200 °F(648°C)



CHECK VALVES



- **APPLICATIONS**
INSTRUMENT LINES
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 3000 psig @70 °F(21°C)
OPERATING TEMPERATURE RANGE
: -10 °F(-23°C) TO 375 °F(191°C)

SWING-OUT BALL VALVES



- **APPLICATIONS**
INSTRUMENT AIR LINE,
OIL & GAS PRODUCTION
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 3000 psig @100 °F(38°C)
OPERATING TEMPERATURE RANGE
: -20 °F(-28°C) TO 450 °F(232°C)

TOGGLE VALVES

- **APPLICATIONS**
INSTRUMENT LINE
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 300 psig @100 °F(38°C)
OPERATING TEMPERATURE RANGE
: -20 °F(-28°C) TO 200 °F(93°C)



QUICK CONNECTS

- **APPLICATIONS**
INSTRUMENT LINE
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: 3000 psig @70 °F(21°C)
OPERATING TEMPERATURE RANGE
: -10 °F(-23°C) TO 400 °F(204°C)



DOUBLE BLOCK & BLEED VALVES



- **APPLICATIONS**
PRIMARY ISOLATION,
SAMPLING, CHEMICAL INJECTION
- **SPECIFICATIONS**
MAXIMUM OPERATING PRESSURE
: CLASS2500 (6000 psig) @100 °F(38°C)
OPERATING TEMPERATURE RANGE
: -65 °F(-54°C) TO 400 °F(204°C)
WITH PEEK SEAT

VACUUM CLAMP

- **APPLICATIONS**
VACUUM LINES





Valve Series

- Ball Valves
- Integral Bonnet Needle Valves
- Union Bonnet Needle Valves
- Check Valves
- High Pressure Check Valves
- High Pressure Needle Valves
- Plug Valves
- Manifold Valves
- Vacuum Clamp
- Regulators
- Flexible Hoses
- Double Block & Bleed Valves
- Swing-Out Ball Valves
- Toggle Valves
- Bleed & Purge Valves
- Quick Connectors
- High Pressure Ball Valves
- Hydraulic Ball Valves
- Trunnion Ball Valves
- Rising Plug Valves
- Relief Valves
- Cryogenic Needle Valves
- Cryogenic Ball Valves

Fitting Series

- Tube Fittings
- Thread Fittings
- Forged Fittings
- Bite Type Tube Fittings (DIN2353)
- Bite Type Tube Fittings (JIS B2351)
- 37° Flared Tube Fittings (SAE J514)
- O-Ring Face Seal Fittings
- Hose Connectors & Push-On Hose Fittings

Electronics

- MCPD(Molded Case Power Distributor)

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