

Ball Valve SBV120H Series

120 Series 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" and 0.406" (1.3mm to 10.3mm)

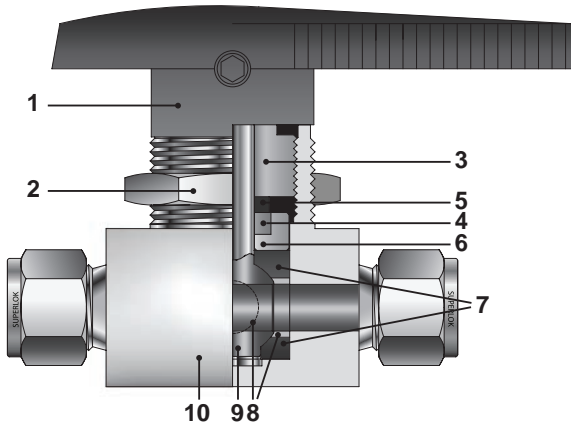
Testing

- 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

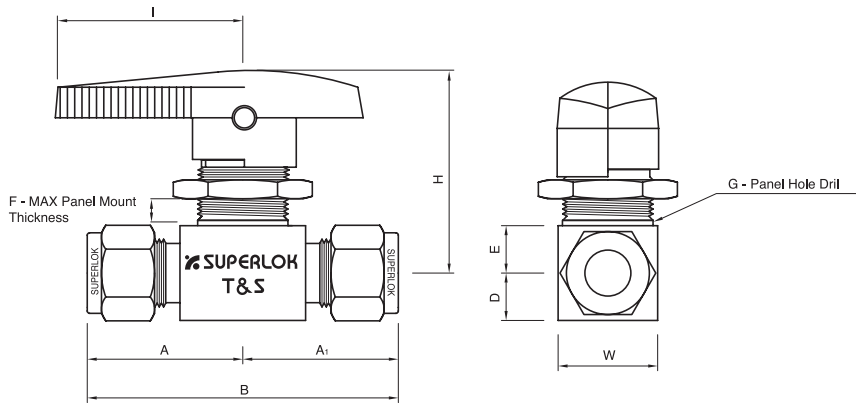


No.	Component	Material Grade / ASTM Specification	
		Stainless Steel	Brass
1	Handle	Zinc	
	Set Screw	Stainless Steel	
2	Panel Nut	Stainless Steel	Brass
3	Packing Bolt	SS316 / A276	Brass / B16
*4	Packing	PTFE	
5	Upper Packing Gland	SS316 / A276	
6	Lower Packing Gland	SS316 / A276	
*7	Upper&Lower Ball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

※ Wetted components are marked "*"

SBV120H Series : 2-Way (On - Off Valve)

STRAIGHT TYPE



ANGLE TYPE

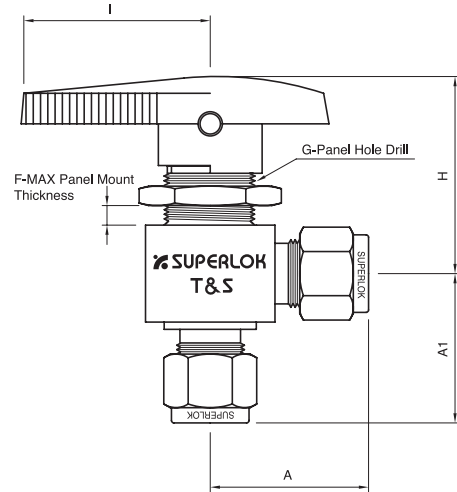


Table of dimensions

Part Number	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	7.1	8.7	6.4	15.0	36.0	29.0	15.0						
	S3M	2.4	0.2	3mm SUPERLOK	25.4	25.4	50.8													
	S2	0.2	1/8" SUPERLOK																	
	F2N	0.5	1/8" FEMALE NPT	20.6	20.6	41.2														
	S6M	3.2	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	9.4	11.2	4.8	19.8	43.7	38.5	19.8						
	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		2.4	6mm SUPERLOK	30.2	30.2	60.4													
	S4		2.4	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	14.2	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											38.9	38.9	77.8			
	S10M		6.0	10mm SUPERLOK																
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	75.0						
	F8R		6.3	1/2" ISO FEMALE																
	S12M		12.0	12mm SUPERLOK																
	S8		12.0	1/2" SUPERLOK											50.0	50.0	100			
	S12		6.4	3/4" SUPERLOK																

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

SBV120H Series : 3-Way (Switching Valve)

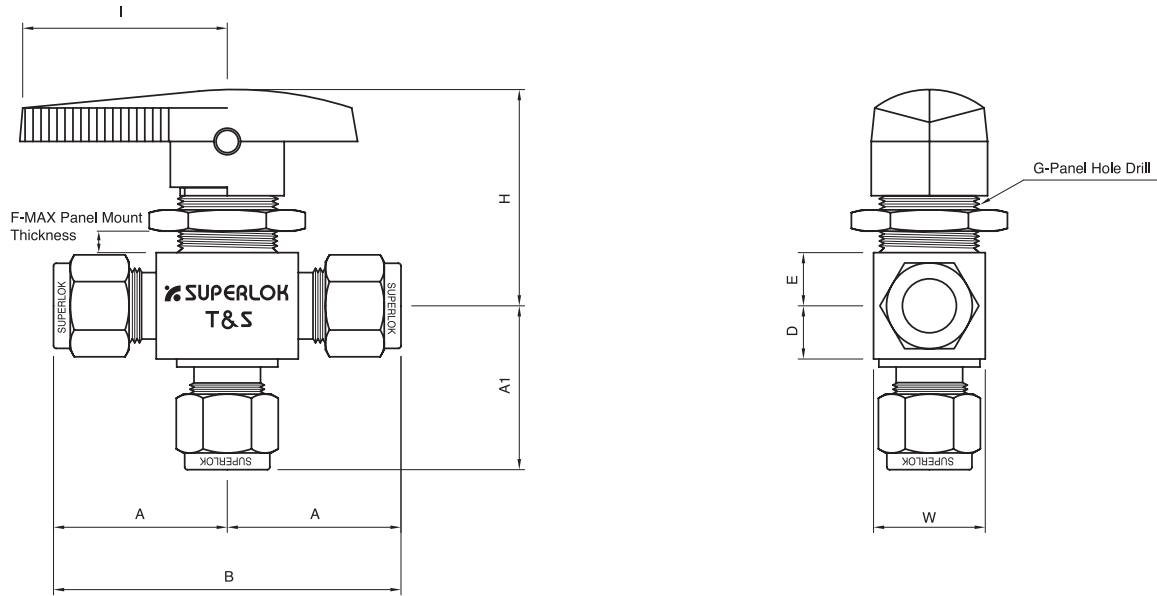


Table of dimensions

Part Number	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	7.1	8.7	6.4	15.0	36.0	29.0	15.0				
	S3M	2.4	0.15	3mm SUPERLOK		25.4	24.6	50.8											
	S2		0.15	1/8" SUPERLOK															
	F2N		0.3	1/8" FEMALE NPT		20.6	20.6	41.2											
	S6M	3.2	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	9.4	11.2	4.8	19.8	43.7	38.5	19.8				
	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	14.2	14.2	9.4	28.5	56.1	51.0	28.5				
	F6N			3/8" FEMALE NPT															
	F6R			1.5	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														
	S8				1/2" SUPERLOK											50.0	50.0	100	
	S12			3.8	3/4" SUPERLOK														

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

Pressure Rating

Valve	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 Atmosphere(Δp)psi					
	10			50		
	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 Atmosphere(Δp)psi					
	10			50		
	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 Designator

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 Designation

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

Pipe Thread Designation

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

5. Material Designator

SS(BLANK) : 316 Stainless Steel
B : BRASS