

SBV30 Series One-Piece Instrument Ball Valves

Features

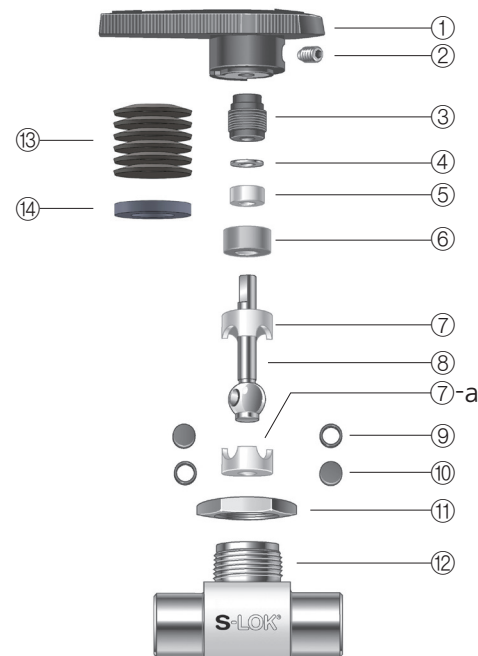
- Pressure rating up to 3000psig (206bar) @ 21°C (70°F).
- Temperature rating from 10°C (50°F) to 65°C (150°F) with standard PTFE seat and packing.
- Choice of materials : Standard S316 and available in alloy 400 and Brass.
- Vent to atmosphere available.
- Every valve is 100% factory tested with the Nitrogen @ 1000psi (69bar).
- **Handle with Arrow** indicates flow direction.
allows quick operation to open and close.
- **Panel Mounting Nut** allow easy installation.
- **Variety of End Connections** include fractional/metric S-LOK tube fittings, NPT female, ISO female threads.
- **One-piece body** reduces the number of potential leak points.
- **Orifice** is optimized design for minimum pressure drop.
- **Packing Bolt** allows easy packing adjustment with valve in-line.
- **PTFE Packing** is supported by top and bottom glands.
- **Encapsulating Ball Seats** virtually allow no dead volume.
are uniformly forced to form tight seals against ball and body cavity.
- **Integral Ball-Stem** is machined from one piece bar stock.
is best suited to encapsulate ball seats.
- **Support rings and discs** retains the capsule packing and prevent cold flow



Materials of Construction

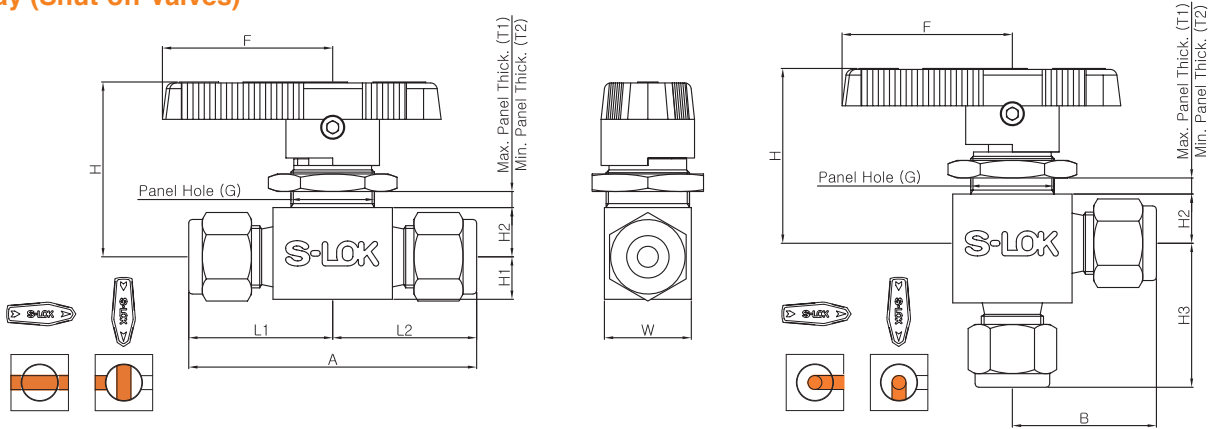
No	Component	Body Material	
		Stainless Steel	Brass
1	Handle	Black Nylon	
2	Set Screw	SS630 / A564	
3	Packing Bolt	SS316 / A479 or A276	Brass / B16
4	Upper Grand	SS316 / A479 or A276	
5	Packing	PTFE	
6	Lower Grand	SS316 / A479 or A276	Brass / B16
7	Upper Ball Seat	PTFE (Optional *PFA)	
7-a	Lower Ball Seat	PTFE (Optional *PFA)	
8	Ball Stem	SS316 / A479 or A276	
9	Support Ring	SS316 (Fluorocarbon Coated)	
10	Side Disc	SS316 (Fluorocarbon Coated)	
11	Panel Nut	SS316 / A276	Brass / B16
12	Body	SS316 / A479 or A276	Brass / B16
*13	Packing Spring	SS630 / A693	
*14	Packing Gland	SS316 / A479 or A276	

* Lower Temperature Service (SBVP Series)



Dimensions & Flow Rate

2-Way (Shut-off Valves)

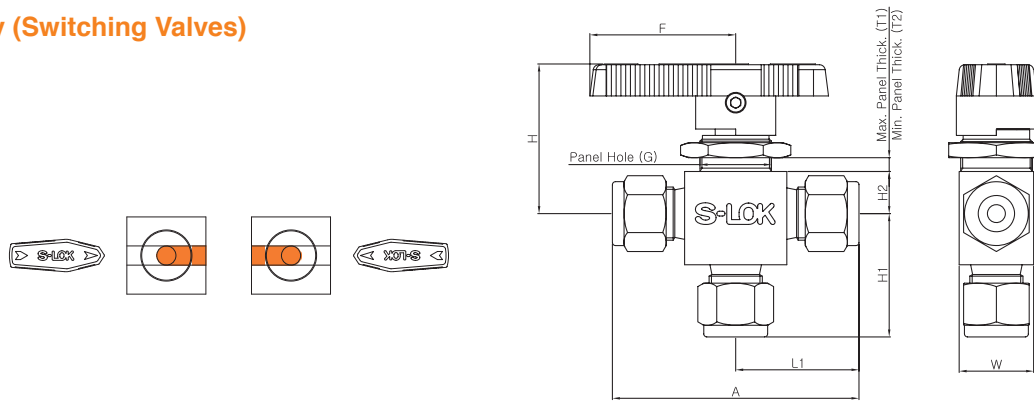


Ordering Number	Orifice		Cv		End Connections		Dimensions (mm)														
	mm	inch	Inline	Angle	Inlet	Outlet	A	L1	L2	H3	H2	H1	F	T1	T2	G	H	W			
SBV1	S-1T	1.3	0.052	0.1	-	1/16" S-LOK	42.7	21.3	-												
	S-2T	2.4	0.093	0.2	0.15	1/8" S-LOK	51.1	25.6	24.6												
	S-3M			0.2	0.15	3mm S-LOK	51.1	25.6	24.6												
	S-4T	3.2	0.125	0.6	0.35	1/4" S-LOK	56.1	28.1	27.2	8.6	7.1	28.4	6.4	2.0	15.1	34.5	14.7				
	S-6M			0.6	0.35	6mm S-LOK	56.1	28.1	27.2												
	F-2N			0.5	0.3	1/8" Female NPT	41.1	20.6	20.6												
SBV2	S-4T	4.8	0.187	1.4	0.9	1/4" S-LOK	59.9	30.0	29.7												
	S-6T			1.5	0.9	3/8" S-LOK	65.5	32.8	32.8												
	S-6M			1.4	0.9	6mm S-LOK	60.7	30.4	29.7												
	S-8M			1.5	0.9	8mm S-LOK	62.5	31.2	30.5												
	F-2N			1.2	0.7	1/8" Female NPT	50.8	25.4	25.4	11.2	9.7	38.9	4.8	2.5	19.8	39.6	19.8				
	F-4N			0.9	0.75	1/4" Female NPT	52.3	26.2	26.2												
	M-4N			1.2	0.75	1/4" Male NPT	50.8	25.4	26.2												
	F-4R			0.9	0.75	1/4" Female PT	52.3	26.2	-												
SBV3	S-6T	7.1	0.281	6.0	2.0	3/8" S-LOK	77.5	38.8	36.3												
	S-10M			6.0	2.0	10mm S-LOK	78.0	38.9	36.9												
	S-8T			6.0	1.5	1/2" S-LOK	83.1	41.6	39.1	14.2	14.2	50.8	9.5	3.0	28.6	52.6	28.4				
	F-4N			3.0	1.7	1/4" Female NPT	63.5	31.8	31.8												
	F-6N			2.6	1.5	3/8" Female NPT	63.5	31.8	31.8												
	F-6R			2.6	1.5	3/8" Female PT	63.5	31.8	-												
SBV4	S-8T	10.3	0.406	12.0	4.6	1/2" S-LOK	99.6	49.8	44.2												
	S-12T			6.4	3.8	3/4" S-LOK	99.6	49.8	44.2												
	S-12M	10.3	0.406	12.0	4.6	12mm S-LOK	99.6	49.8	44.2	17.5	17.5	76.2	9.5	3.0	38.1	61.7	38.1				
	F-8N	10.3	0.406	6.3	3.5	1/2" Female NPT	79.2	39.6	39.6												
	F-8R			6.3	3.5	1/2" Female PT	79.2	39.6	-												

* Dimensions are for reference only and are subject to change.

Pressure Drop to Atmosphere (Δp), psi		Cv														
		0.1	0.2	0.5	0.6	0.9	1.2	1.5	1.6	2.4	2.6	3.0	6.0	6.3	6.4	12.0
Air SCFM @70°(21°C)	10	1.1	2.7	6.9	8.3	12.0	17.0	21.0	22.0	33.0	36.0	41.5	83.0	87.2	88.6	166.0
	50	3.0	7.6	19.1	23.0	34.0	46.0	57.0	61.0	92.0	99.5	115.0	230.0	241.0	245.0	459.0
	100	5.3	14.0	33.9	40.7	61.0	81.0	100.0	110.0	160.0	176.0	203.0	407.0	427.0	434.0	814.0
Water US GPM @70°(21°C)	10	0.3	0.6	1.6	1.9	2.8	3.7	4.7	5.0	7.5	8.2	9.5	19.0	19.9	20.2	37.9
	50	0.7	1.4	3.5	4.2	6.3	8.4	11.0	11.0	17.0	18.4	21.2	42.3	44.5	45.3	84.9
	100	1.0	2.0	5.0	6.0	9.0	12.0	15.0	16.0	24.0	26.0	30.0	60.0	63.0	64.0	120.0

3-Way (Switching Valves)



Ordering Number		Orifice		Cv	End Connections	Dimensions (mm)									
		mm	inch			A	L1	H1	H2	F	T1	T2	G	H	W
SBV1-3B	S-1T	1.3	0.052	0.08	1/16" S-LOK	42.7	21.3	20.6	8.6	28.7	6.4	2.0	15.1	34.5	14.7
	S-2T	2.4	0.093	0.15	1/8" S-LOK	51.1	25.6	24.6							
	S-3M	3.2	0.125	0.35	3mm S-LOK	56.1	28.1	27.2							
	S-4T	2.4	0.093	0.15	1/4" S-LOK	51.1	25.6	24.6							
	S-6M	3.2	0.125	0.35	6mm S-LOK	56.1	28.1	27.2							
	F-2N	3.2	0.125	0.3	1/8" Female NPT	41.1	20.6	20.6							
SBV2-3B	S-4T	4.8	0.187	0.9	1/4" S-LOK	60.7	30.4	29.7	11.2	38.9	4.8	2.5	19.8	39.6	19.8
	S-6M			0.9	6mm S-LOK	60.7	30.4	29.7							
	S-8M			0.9	8mm S-LOK	62.5	31.2	30.5							
	F-4N			0.75	1/4" Female NPT	52.3	26.2	26.2							
	F-4R			0.75	1/4" Female PT	52.3	26.2	26.2							
SBV3-3B	S-6T	7.1	0.281	2.0	3/8" S-LOK	73.4	36.7	36.3	14.2	50.8	9.5	3.0	28.6	52.6	28.4
	S-10M			2.0	10mm S-LOK	73.4	36.7	36.3							
	F-4N			1.7	1/4" Female NPT	63.5	31.8	31.8							
	F-6N			1.5	3/8" Female NPT	63.5	31.8	31.8							
	F-6R			1.5	3/8" Female PT	63.5	31.8	31.8							
SBV4-3B	S-8T	10.3	0.406	4.6	1/2" S-LOK	88.4	44.2	44.2	17.5	76.2	9.5	3.0	38.1	61.7	38.1
	S-12T	10.3	0.406	3.8	3/4" S-LOK	88.4	44.2	44.2							
	S-12M	10.3	0.406	4.6	12mm S-LOK	88.4	44.2	44.2							
	F-8N	10.3	0.406	3.5	1/2" Female NPT	79.5	39.8	39.6							
	F-8R	10.3	0.406	3.5	1/2" Female PT	79.5	39.8	39.6							

* Dimensions are for reference only and are subject to change.

Pressure Drop to Atmosphere (Δp), psi		Cv													
		0.08	0.15	0.3	0.35	0.75	0.8	0.9	1.5	1.7	2.0	3.5	3.8	4.6	
Air SCFM @ 70°F (21°C)	10	0.9	2.0	4.2	4.8	10.0	11.0	12.0	20.8	23.5	27.7	48.4	52.6	63.7	
	50	2.4	5.7	11.5	13.4	29.0	31.0	34.0	57.4	65.0	76.5	134.0	145.0	176.0	
	100	4.3	10.1	20.3	23.7	51.0	54.0	61.0	102.0	115.0	136.0	237.0	258.0	312.0	
Water US GPM @ 70°F (21°C)	10	0.3	0.4	0.9	1.1	2.3	2.5	2.8	4.7	5.4	6.3	11.1	12.0	14.5	
	50	0.6	1.0	2.1	2.5	5.3	5.6	6.3	10.6	12.0	14.1	24.7	26.9	32.5	
	100	0.8	1.5	3.0	3.5	7.5	8.0	9.0	15.0	17.0	20.0	35.0	38.0	46.0	

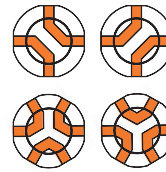
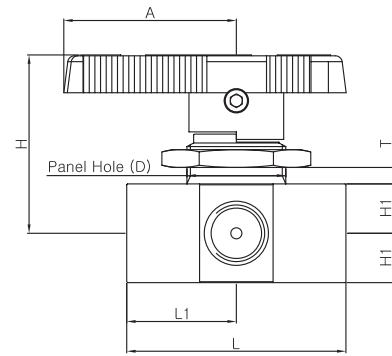
Pressure Rating with PTFE(Standard) & PFA Seat

Valve Designator	Pressure Rating			Temperature Range	
	2-Way Straight	2-Way Angle	3-Way Switching	PTFE	PFA
SBV1	2500psig (172 bar)			50° to 150°F (10°C to 65°C)	-65° to 150°F (-54°C to 65°C)
SBV2	3000psig (206 bar)	2500psig (172 bar)			
SBV3	2500psig (172 bar)		1500psig (103 bar)		
SBV4	2500psig (172 bar)				

4-Way / 6-Way Type

- Crossover of two streams.
- Machined stops provide positive port positioning.

Valve Designator	Pressure Rating	Temperature Range	
		PTFE	PFA
SBV2-4W-F-2N	2500psig (172 bar)	50°F to 150°F (10°C to 65°C)	-65°F to 150°F (-54°C to 65°C)
SBV4-4W-F-8N	1500psig (103 bar)		
SBV2-6W-S-1T	500psig (34.4 bar)		
SBV2-6W-S-2T			
SBVP2-4W-F-2N	2500psig (172 bar)		
SBVP4-4W-F-8N	1500psig (103 bar)		
SBVP2-6W-S-1T	500psig (34.4 bar)		
SBVP2-6W-S-2T			



- T : Maximum panel thickness.
- D : Panel Hole

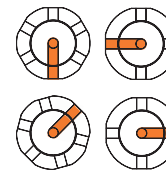
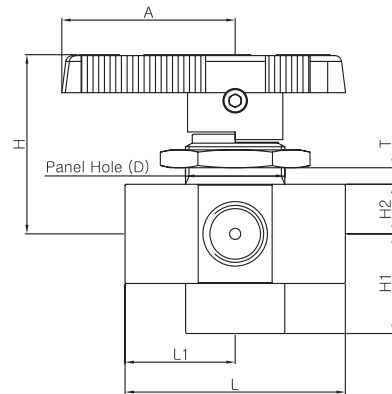
Ordering Number	Orifice		Cv	End Connections	Dimensions (mm)						
	mm	inch			L	L1	H	H1	A	T	D
SBV2-4W-F-2N	1.6	0.062	0.08	1/8" Female NPT	39.4	19.8	43.0	11.1	38.8	4.8	23.0
SBV4-4W-F-8N	7.1	0.281	1.6	1/2" Female NPT	79.5	39.6	61.7	17.5	76.2	9.7	38.1
SBV2-6W-S-1T	1.3	0.052	0.06	1/16" S-LOK	49.3	24.6	42.7	11.2	38.9	4.8	23.1
SBV2-6W-S-2T	1.6	0.062	0.08	1/8" S-LOK							

* Dimensions are for reference only and are subject to change.

5-Way / 7-Way Type

- Flow can be switched from a single port to multiple ports or from multiple ports to a single port.
- 5-Way series valves have a spring-loaded detent for exact port positioning.

Valve Designator	Pressure Rating	Temperature Range	
		PTFE	PFA
SBV2-5W-F-2N	2500psig (172 bar)	50°F to 150°F (10°C to 65°C)	-65°F to 150°F (-54°C to 65°C)
SBV2-5W-F-2G			
SBV4-5W-F-8N	1500psig (103 bar)		
SBV2-7W-S-1T	500psig (34.4 bar)		
SBV2-7W-S-2T			
SBVP2-5W-F-2N	2500psig (172 bar)		
SBVP2-5W-F-2G	1500psig (103 bar)		
SBVP4-5W-F-8N			
SBVP2-7W-S-1T	500psig (34.4 bar)		
SBVP2-7W-S-2T			



- T : Maximum panel thickness.
- D : Panel Hole

Ordering Number	Orifice		Cv	End Connections	Dimensions (mm)							
	mm	inch			L	L1	H	H1	H2	A	T	D
SBV2-5W-F-2N	1.6	0.062	0.07	1/8" Female NPT	40	19.8	43.0	22.3	11.1	38.8	4.1	23.0
SBV2-5W-F-2G	1.6	0.062	0.07	1/8" Female PF								
SBV4-5W-F-8N	10.3	0.406	3.5	1/2" Female NPT	79.5	39.6	61.7	17.5	76.2	76.2	9.7	38.1
SBV2-7W-S-1T	1.3	0.052	0.05	1/16" S-LOK	49.3	24.6	42.9	24.6	11.2	38.9	4.1	23.1
SBV2-7W-S-2T	1.6	0.062	0.07	1/8" S-LOK								

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↗ Packing Adjustment

- SBV30 Valves are designed to control fluid in full open and closed position ; using SBV30 valves to throttle the flow may reduce the valve life.
- Every valves are factory adjusted for 1000psig service at 21°C (70°F).
- For use in higher pressure, the packing must be readjusted.
- Exposure of valves to varying temperature can affect the initial packing load. You may need check leak and readjust packing bolt.
- Packing adjustment may be required during the valve in service.

↗ Testing

- Every valve is tested for bubble-tight leakage at both seat and stem packing with nitrogen at 1000psig (69bar).
- Seats have a maximum allowable leak rate of 0.1(SCCM).
- Optional tests are available upon request.

↗ Ordering Information

