

## ■ SFBV60 Series Forged High pressure Ball Valves

### Features

- Pressure rating up to 6,000psig (413bar) @ 70°F (21°C).
- Temperature rating from -65°F (-54°C) to 350°F (177°C) with Standard PCTFE seat.
- Free floating ball design provides seat wear compensation, therefore ensures leak proof shut-off at high pressure.
- High flow in a compact design.
- Panel mountable as standard.
- Blow out proof design with internally loaded stem.
- Micro-finished ball provides a positive seal.
- Low operating torques and positive handle stops.
- Handle indicates flow direction.
- Straight through flow path for minimum pressure drop.
- Bi-Directional flow.
- Chevron packing standard for positive leak tight.
- 90 degree actuation.
- Every valve is 100% factory tested with the Nitrogen @1000psi (69bar).
- Variety of end connections include reliable S-LOK tube fittings, Male/Female NPT & ISO/BSP threads.

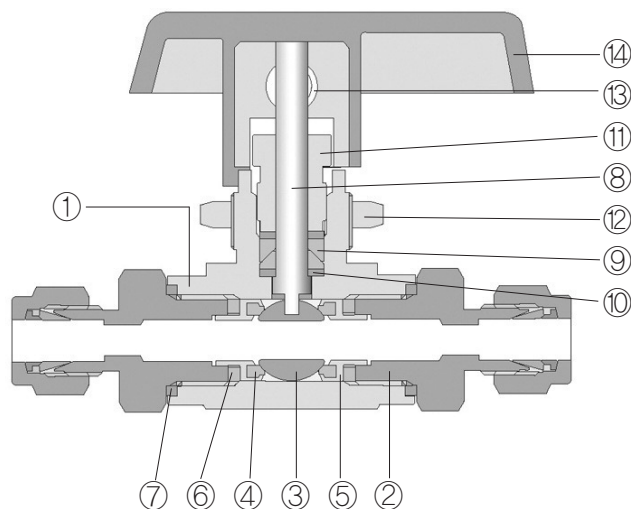
### Applications

- Water
- Oil
- Gas
- Petrochemical

### Testing

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

### Materials of Construction



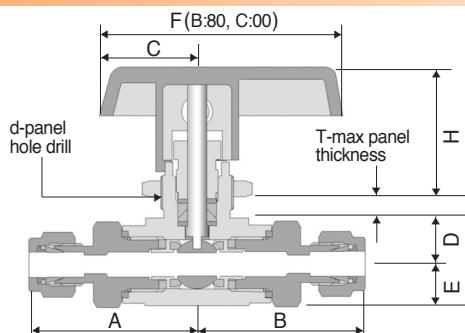
Item	Description	Grade /ASTM Specification
1	Body	S316/A276, A479
2	End Connector	S316/A276, A479
3	Ball	S316/A276, A479
4	Seats	PCTFE, optional PTFE, PEEK
5	Retainer	S316/A276, A479
6	Retainer Seal	PTFE
7	End Seals	PTFE
8	Stem	S316/A276, A479
9	Stem Packing	PTFE
10	Stem Washer	S316
11	Packing Bolt ①	S316/A276, A479
12	Lock Nut	S316/A276, A479
13	Set Screw	Stainless Steel
14	Handle	Black Nylon standard

① Molybdenum disulfide with hydrocarboncoating.

※ Note : - wetted parts are listed in orange color.  
- Lubricant is Fluorocarbon based.

## 2-Way (Shut-Off Valve)

In-line pattern



## Ordering Information and Dimensions

Basic Ordering Number	End Connections		Orifice mm (in.)	Cv	Dimensions mm (inch)														
	Inlet	Outlet			A	B	D	E	H	C	F	d	T						
SFBV1	S-1T	1/16" S-LOK	1.3(0.052)	0.06	33.0(1.30)	33.0(1.30)													
	S-2T	1/8" S-LOK	2.4(0.093)	0.21	34.5(1.36)	34.5(1.36)													
	F-2N	1/8" Female NPT	4.2(0.165)	0.93	27.2(1.07)	27.2(1.07)	8.5 (0.33)	10.0 (0.39)	23.2 (0.91)	18.0 (0.71)	47.0 (1.85)	16.3 (0.64)	3.3 (0.13)						
	M-2N	1/8" Male NPT			29.9(1.18)	29.9(1.18)													
	S-4T	1/4" S-LOK			37.6(1.48)	37.6(1.48)													
	M-4N	1/4" Male			34.3(1.35)	34.3(1.35)													
S-3M	3mm S-LOK	2.2(0.086)	0.18	34.8(1.37)	34.8(1.37)														
SFBV2	S-2T	1/8" S-LOK	2.4(0.093)	0.26	41.9(1.65)	41.9(1.65)													
	S-4T	1/4" S-LOK	4.8(0.189)	1.04	44.2(1.74)	44.2(1.74)	11.9 (0.47)	10.7 (0.42)	38.9 (1.53)	30 (1.00)	78 (3.07)	19.6 (0.77)	6.4 (0.25)						
	MS-4N4T	1/4" Male NPT			1/4" S-LOK	41.1(1.62)								41.1(1.62)					
	FS-4N6T	1/4" Female NPT			1/4" S-LOK	38.4(1.51)								38.4(1.51)					
	F-4N	1/4" Female NPT				38.4(1.51)								38.4(1.51)					
	M-4N	1/4" Male NPT		41.1(1.62)	41.1(1.62)														
	MF-4N	1/4" Male NPT	1/4" Female NPT	38.4(1.51)	41.1(1.62)														
	MS-4N6T	1/4" Male NPT	3/8" S-LOK	6.4(0.250)	2.34	45.7(1.80)								38.4(1.51)					
	FS-4F6T	1/4" Female NPT	3/8" S-LOK			45.7(1.80)								45.7(1.80)					
	S-6T	3/8" S-LOK				41.1(1.62)								41.1(1.62)					
	M-6N	3/8" Male NPT				41.1(1.62)								41.1(1.62)					
	S-6M	6mm S-LOK	4.8(0.189)	1.04	44.5(1.75)	44.5(1.75)													
S-8M	8mm S-LOK	6.4(0.250)	2.34	45.2(1.78)	45.2(1.78)														
S-10M	10mm S-LOK			46.0(1.81)	46.0(1.81)														
SFBV3	F-6N	3/8" Female NPT	10.3(0.406)	6.42	49.5(1.95)	49.5(1.95)	17.8 (0.70)	17.5 (0.69)	44.2 (1.74)	38.1 (1.50)	99 (3.9)	22.9 (0.90)	9.7 (0.38)						
	F-8N	1/2" Female NPT			54.6(2.15)	54.6(2.15)													
	S-8T	1/2" S-LOK			59.4(2.34)	59.4(2.34)													
	M-8N	1/2" Male NPT			56.4(2.22)	56.4(2.22)													
	S-12T	3/4" S-LOK																	
	S-12M	12mm S-LOK	9.5(0.375)	5.57	59.2(2.33)	59.2(2.33)													
	S-16M	16mm S-LOK	10.3(0.406)	6.42															

Dimensions are for reference only and are subject to change. Dimensions with S-LOK nuts are in finger-tight position.

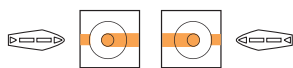
### • Flow Rate

Pressure Drop to Atmosphere ( $\Delta p$ ) in psi		Cv								
		0.06	0.18	0.21	0.26	0.93	1.04	2.34	5.57	6.42
Air SCFM @70°F (21°C)	10	5.9	17.7	20.7	25.6	91.5	102.4	230.3	548.2	631.9
	50	13.2	39.6	46.2	57.2	204.7	228.9	515.0	1225.9	1413.0
	100	18.7	56.0	65.4	80.9	289.5	323.7	728.3	1733.7	1998.3
Water US GPM @60°F (16°C)	10	0.2	0.6	0.7	0.8	2.9	3.3	7.4	17.6	20.3
	50	0.4	1.3	1.5	1.8	6.6	7.4	16.5	39.4	45.4
	100	0.6	1.8	2.1	2.6	9.3	10.4	23.4	55.7	64.2

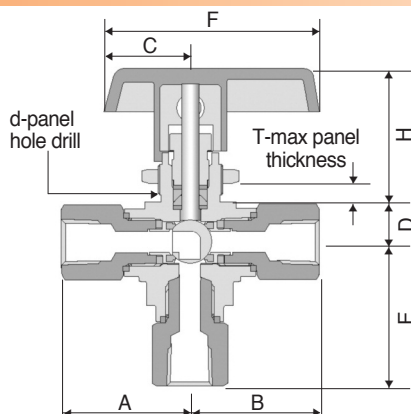
\*Flow rate calculated with 1000psig (69bar) inlet pressure.

\*To determine m<sup>3</sup>/hr multiply GPM by 0.227 and SCFM by 1.69

### 3-Way (Switching Valve)



**3-way ball valve**  
SFBV 3-way Ball Valve is designed to switch media through the bottom port and direct it to out of two outlet ports.



### Ordering Information and Dimensions

Basic Ordering Number	End Connections		Orifice mm (in.)	Cv	Dimensions mm (inch)							
	Inlet	Outlet			A	B	E	D	H	C	F	d
SFBV1-3B	S-1T	1/16" S-LOK	1.3(0.052)	0.06	33.0(1.30)	33.7(1.30)	8.5 (0.33)	23.2 (0.91)	18.0 (0.71)	47.0 (1.85)	16.3 (0.64)	3.3 (0.13)
	S-2T	1/8" S-LOK	2.4(0.093)	0.21	34.5(1.36)	36.4(1.36)						
	F-2N	1/8" Female NPT	4.2(0.165)	0.63	27.2(1.07)	29.9(1.18)						
	M-2N	1/8" Male NPT			29.9(1.18)	29.9(1.18)						
	S-4T	1/4" S-LOK			37.6(1.48)	37.2(1.46)						
	M-4N	1/4" Male			34.3(1.35)	29.9(1.18)						
S-3M	3mm S-LOK	2.2(0.086)	0.18	34.8(1.37)	36.4(1.36)	11.9 (0.47)	38.9 (1.53)	30 (1.18)	78 (3.07)	19.6 (0.77)	6.4 (0.25)	
S-2T	1/8" S-LOK	2.4(0.093)	0.21	41.9(1.65)	45.5(1.79)							
S-4T	1/4" S-LOK	4.8(0.189)	0.70	44.2(1.74)	47.8(1.88)							
F-4N	1/4" Female NPT	5.0(0.196)	0.87	38.4(1.51)	41.9(1.65)							
M-4N	1/4" Male NPT	5.0(0.196)	0.87	41.1(1.62)	44.7(1.76)							
S-6T	3/8" S-LOK			45.7(1.80)	49.3(1.94)							
M-6N	3/8" Male NPT			41.1(1.62)	44.7(1.76)							
S-6M	6mm S-LOK	4.8(0.189)	0.70	44.5(1.75)	47.8(1.88)							17.8 (0.70)
S-8M	8mm S-LOK	5.0(0.196)	0.87	45.2(1.78)	48.5(1.91)							
S-10M	10mm S-LOK			46.0(1.81)	49.5(1.95)							
SFBV3-3B	F-6N	3/8" Female NPT	10.3(0.406)	3.62	49.5(1.95)	58.2(2.29)						
	F-8N	1/2" Female NPT			54.6(2.15)	63.2(2.49)						
	S-8T	1/2" S-LOK			59.4(2.34)	68.1(2.68)						
	M-8N	1/2" Male NPT			56.4(2.22)	65.8(2.59)						
	S-12T	3/4" S-LOK			59.2(2.33)	68.1(2.68)						
	S-12M	12mm S-LOK				67.8(2.67)						
S-16M	16mm S-LOK	10.3(0.406)	3.62	56.9(2.33)	65.5(2.67)							

Dimensions are for reference only and are subject to change. Dimensions with S-LOK nuts are in finger-tight position.

### • Flow Rate

Pressure Drop to Atmosphere ( $\Delta p$ ) in psi	Cv											
	0.06	0.18	0.21	0.63	0.7	0.87	0.93	2.34	3.46	3.62	6.42	
Air SCFM @ 70°F (21°C)	10	5.9	17.7	20.7	62.0	68.9	85.6	91.5	230.3	340.6	356.3	631.9
	50	13.2	39.6	46.2	138.7	154.1	191.5	204.7	515.0	761.5	796.7	1413.0
	100	18.7	56.0	65.4	196.1	217.9	270.8	289.5	728.3	1077.0	1126.8	1998.3
Water US GPM @ 60°F (16°C)	10	0.2	0.6	0.7	2.0	2.2	2.8	2.9	7.4	10.9	11.4	20.3
	50	0.4	1.3	1.5	4.5	4.9	6.2	6.6	16.5	24.5	25.6	45.4
	100	0.6	1.8	2.1	6.3	7.0	8.7	9.3	23.4	34.6	36.2	64.2

\*Flow rate calculated with 1000psig (69bar) inlet pressure.

\*To determine m<sup>3</sup>/hr multiply GPM by 0.227 and SCFM by 1.69

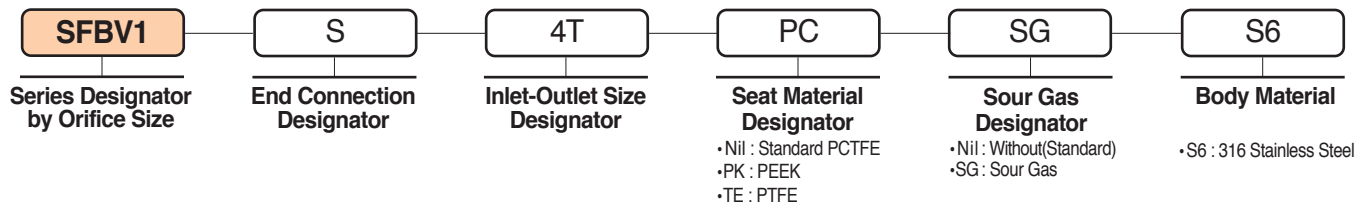
### Technical Data-Pressure and Temperature Rating

Seat Materials	Pressure Rating @ 100°F (70°C)	Temperature Rating	Pressure Rating @ Max Temperature
PCTFE	6,000psig (413bar)	-54°C to 177°C (-65°F to 350°F)	1,000psig @ 300°F (69bar @ 148°C)
PEEK	6,000psig (413bar)	-54°C to 232°C (-65°F to 450°F)	700psig @ 400°F (48bar @ 200°C)
PTFE	1,500psig (103bar)	-54°C to 177°C (-65°F to 350°F)	250psig @ 300°F (17.2bar @ 148°C)

**Caution** Pressure Rating with 3-way side ports of as inlet : 150psig (10bar)

### Ordering Information

Selection the applicable options from designators listed below.



#### SAFETY in VALVE SELECTION

When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.