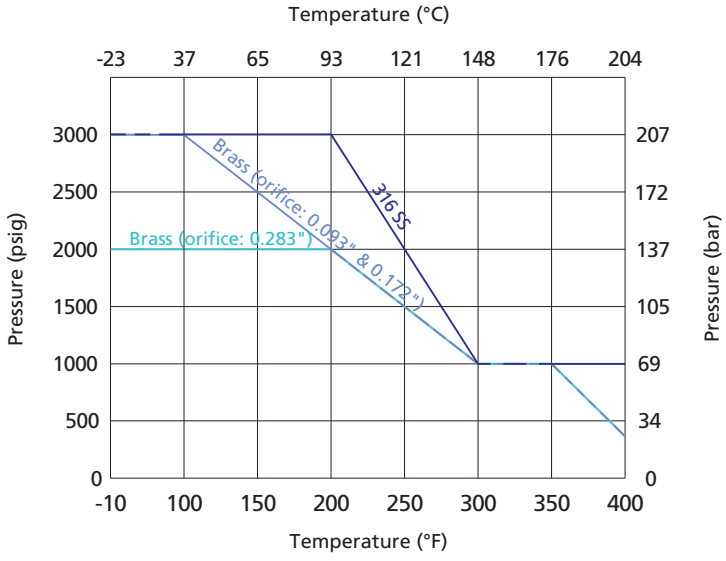
Plug Valves

PV Series

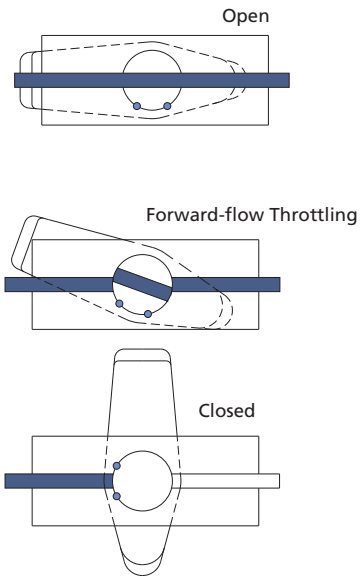
Features

- ◎ Working pressure up to : 3000 psig (207 bar)
- ◎ Working temperature: -10 °F to 400°F (-23°C to 204°C)
- ◎ Sizes from 1/8" to 3/4" and 6 to 12 mm
- ◎ Easy to maintain and clean
- ◎ Low operating torque
- ◎ Replaceable plug assembly
- ◎ Handle as indicator of flow direction
- ◎ Options for handle color
- ◎ Positive handle shutoff
- ◎ Every valve leak tested with Nitrogen or air at working pressure
- ◎ The inlet port for 3-way valves can only be the bottom port

Pressure vs. Temperature



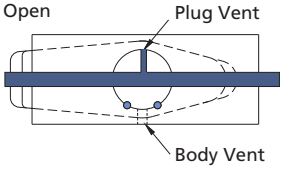
Operation (2-way)

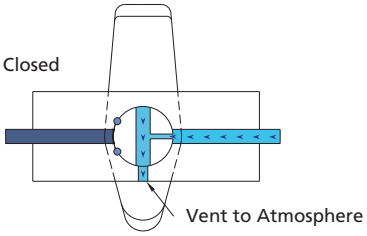


1. Differential pressure is limited to 150 psig (10.3 bar) maximum if reverse flow occurs.
2. Reverse flow throttling may damage O-ring.
3. The graphs are based on FKM O-ring.

Downstream Vents (2-way)

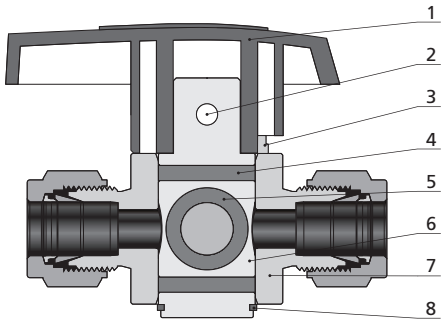
Plug and valve body allow pressure to be released to atmosphere when closed.
Maximum working pressure: 150 psig (10.3 bar).





Standard Materials of Construction

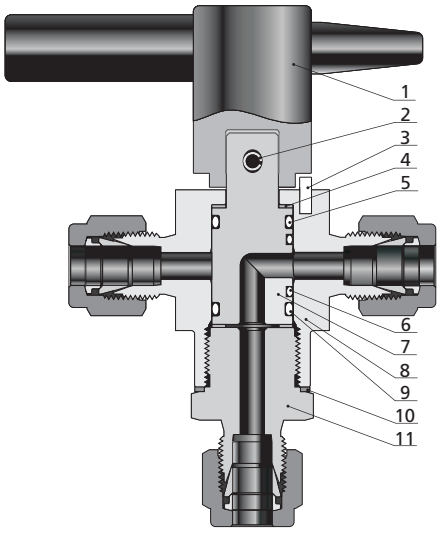
2-way



Item	Component	Material Grade/ASTM Specification	
		Valve Body Material	
		316 SS	Brass
1	Handle	Nylon or Aluminium	
2	Handle Pin	Stainless steel	
3	Body Pin	Stainless steel	
4	*O-ring*	*Fluorocarbon FKM or Neoprene or EPDM or Buna N or FFKM*	
5	*O-ring*	*Fluorocarbon FKM or Neoprene or EPDM or Buna N or FFKM*	
6	*Plug*	*PTFE-coated 316 SS/A479*	*PTFE-coated brass/B453*
7	*Body*	*316 SS/A479*	*Brass/B453*
8	Retaining Ring	Stainless steel	
Lubricant		*Silicone-based*	

Note: Wetted components are italics.

3-way



Inlet

Note: The 3-way plug valve is in working state when the handle is in limit positions. There will be a short moment of interconnection for the three ports when rotating the handle.

Item	Component	Material Grade/ASTM Specifications	
		Valve Body Material	
		316 SS	Brass
1	Handle	Aluminium	
2	Handle Pin	Stainless steel	
3	Body Pin	Stainless steel	
4	*Gasket*	*PTFE*	
5	*O-ring*	*Fluorocarbon FKM or Neoprene or EPDM or Buna N or FFKM*	
6	*O-ring*	*Fluorocarbon FKM or Neoprene or EPDM or Buna N or FFKM*	
7	*Plug*	*PTFE-coated 316 SS/A479*	*PTFE-coated brass/B453*
8	*Body*	*316 SS/A479*	*Brass/B453*
9	*O-ring*	*Fluorocarbon FKM or Neoprene or EPDM or Buna N or FFKM*	
10	*Gasket*	*Silver-plated 316 SS/A479*	*Aluminum/B209*
11	*Fitting*	*316 SS/A479*	*Brass/B453*
Lubricant		*Silicone-based*	

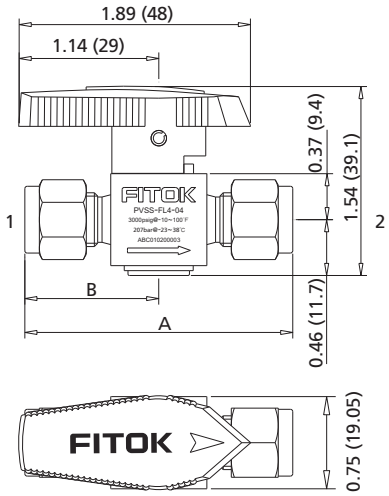
Note: Wetted components are italics.

Dimensions

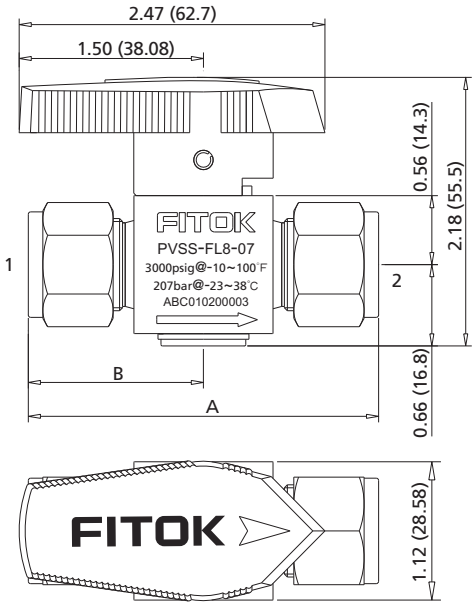
Dimensions, in inches (millimeters), are for reference only and are subject to change.

2-way Valves

Orifice code: 02 and 04



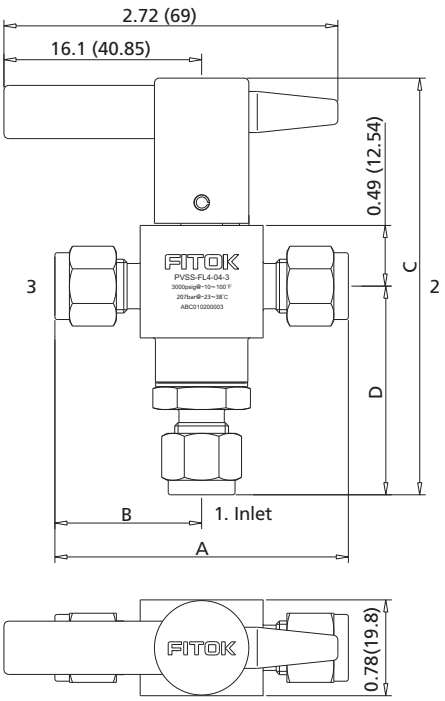
Orifice code: 07



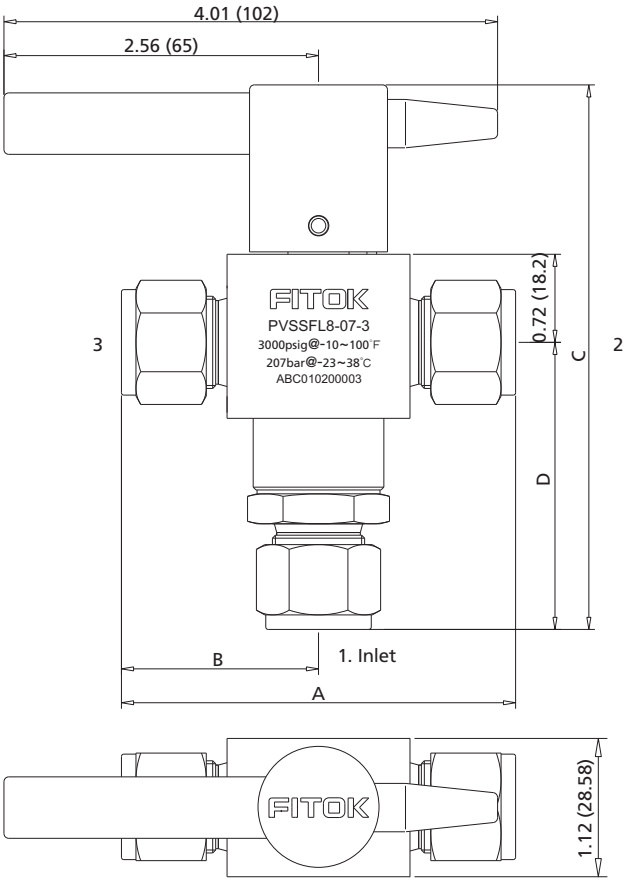
Basic Ordering Information	Connection Type and Size		Orifice in. (mm)	Cv	Dimensions, in. (mm)	
	Inlet **1**	Inlet **2**			A	B
PV□□-FL2-02	1/8" FITOK		0.09 (2.4)	0.1	1.99 (50.5)	0.98 (24.9)
PV□□-FL4-04	1/4" FITOK		0.17 (4.4)	1.6	2.17 (55.1)	1.08 (27.4)
PV□□ -FL6-04	3/8" FITOK			1.1	2.29 (58.2)	1.14 (29.0)
PV□□-FL6-07	3/8" FITOK		0.28 (7.2)	6.4	2.66 (67.6)	1.33 (33.8)
PV□□-FL8-07	1/2" FITOK			4.4	2.88 (73.2)	1.44 (36.6)
PV□□-ML6-04	6 mm FITOK		0.17 (4.4)	1.6	2.17 (55.1)	1.08 (27.4)
PV□□-ML8-04	8 mm FITOK			1.5	2.25 (57.1)	1.12 (28.6)
PV□□-ML10-07	10 mm FITOK		0.28 (7.2)	6.4	2.68 (68.1)	1.34 (34.0)
PV□□-ML12-07	12 mm FITOK			4.8	2.86 (72.6)	1.43 (36.3)
PV□□-FNS2-04	1/8 Female NPT		0.17 (4.4)	1.2	1.78 (45.2)	0.89 (22.6)
PV□□-FNS4-04	1/4 Female NPT			0.9	2.09 (53.1)	1.11 (28.2)
PV□□-FNS4-07	1/4 Female NPT		0.28 (7.2)	4.3	2.38 (60.5)	1.19 (30.2)
PV□□-FNS8-07	1/2 Female NPT			2.7	2.77 (70.3)	1.38 (35.2)
PV□□-NS2-04	1/8 Male NPT		0.17 (4.4)	1.0	1.53 (38.9)	0.76 (19.3)
PV□□-NS4-04	1/4 Male NPT			1.0	1.90 (48.3)	0.95 (24.1)
PV□□-NS8-07	1/2 Male NPT		0.28 (7.2)	2.4	2.64 (67.0)	1.32 (33.5)
PV□□-FRT2-04	1/8 Female BSPT		0.17 (4.4)	1.2	1.78 (45.2)	0.89 (22.6)
PV□□-FRT4-04	1/4 Female BSPT			0.9	2.09 (53.1)	1.11 (28.2)
PV□□-FRT4-07	1/4 Female BSPT		0.28 (7.2)	4.3	2.38 (60.5)	1.19 (30.2)
PV□□-FRT8-07	1/2 Female BSPT			2.7	2.77 (70.3)	1.38 (35.2)

3-way Valves

Orifice code: 02 and 04



Orifice code: 07



Basic Ordering Information	Connection Type and Size		Orifice in. (mm)	Dimensions, in. (mm)			
	Inlet 1	Inlet 2/3		A	B	C	D
PV□□-FL2-02-3	1/8" FITOK		0.09 (2.4)	2.19 (55.7)	1.09 (27.8)	3.29 (83.6)	1.60 (40.6)
PV□□-FL4-04-3	1/4" FITOK		0.17 (4.4)	2.40 (60.6)	1.20 (30.3)	3.39 (86.1)	1.69 (43.1)
PV□□-FL6-04-3	3/8" FITOK			2.25 (64.0)	1.26 (32.0)	3.46 (87.8)	1.76 (44.8)
PV□□-FL6-07-3	3/8" FITOK		0.28 (7.2)	3.01 (76.4)	1.51 (38.4)	4.33 (110)	2.24 (56.8)
PV□□-FL8-07-3	1/2" FITOK			3.21 (81.6)	1.61 (40.8)	4.43 (112.6)	2.24 (59.4)
PV□□-ML6-04-3	6 mm FITOK		0.17 (4.4)	2.41 (61.3)	1.21 (30.7)	3.40 (86.4)	1.71 (43.5)
PV□□-ML8-04-3	8 mm FITOK			2.48 (62.9)	1.24 (31.4)	3.43 (87.2)	1.74 (44.2)
PV□□-ML10-07-3	10 mm FITOK		0.28 (7.2)	3.02 (76.8)	1.51 (38.4)	4.34 (110.2)	2.24 (57.0)
PV□□-ML12-07-3	12 mm FITOK			3.21 (81.6)	1.61 (40.8)	4.44 (112.8)	2.35 (59.6)
PV□□-FNS2-04-3	1/8 Female NPT		0.17 (4.4)	2.06 (52.3)	1.03(26.2)	3.01 (76.4)	1.11 (33.4)
PV□□-FNS4-04-3	1/4 Female NPT					3.19 (81.0)	1.50 (38.0)
PV□□-FNS4-07-3	1/4 Female NPT		0.28 (7.2)	2.38 (60.5)	1.19 (30.3)	3.98 (101.2)	1.89 (48.0)
PV□□-FNS6-07-3	3/8 Female NPT						
PV□□-NS2-04-3	1/8 Male NPT		0.17 (4.4)	1.76 (44.8)	0.88 (22.4)	3.08 (78.2)	1.39 (35.2)
PV□□-NS4-04-3	1/4 Male NPT			2.04 (51.9)	1.02 (26.0)	3.26 (82.7)	1.56 (39.7)
PV□□-NS4-07-3	1/4 Male NPT		0.28 (7.2)	2.46 (62.5)	1.23 (31.3)	4.13 (104.9)	2.04 (51.7)
PV□□-NS6-07-3	3/8 Male NPT						

Locking Device

◎ Lock PV series plug valves, locking hole diameter is 0.39 in (9.9 mm).
◎ To order a plug valve with locking device, add -L to the valve ordering number.
Example: PVSS-FL4-04-L
◎ Aluminum handle is standard for PV series plug valves with locking device while stainless steel handle is optional.

Handle Color	Handle Material	Designator	Part No. Example
Black	Aluminum	-	PVSS-FL4-04-L
Red		R	PVSS-FL4-04R-L
Green		G	PVSS-FL4-04G-L
Yellow		Y	PVSS-FL4-04Y-L
Blue		B	PVSS-FL4-04B-L
Stainless Steel	304 SS	SD	PVSS-FL4-04SD-L

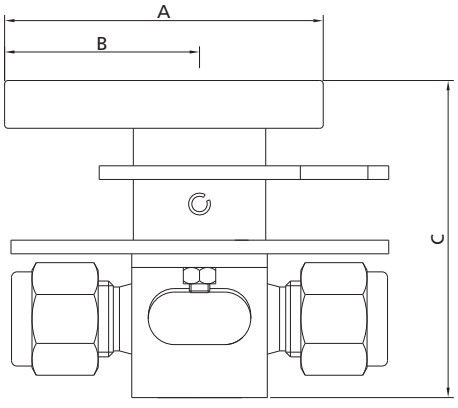
Construction Materials

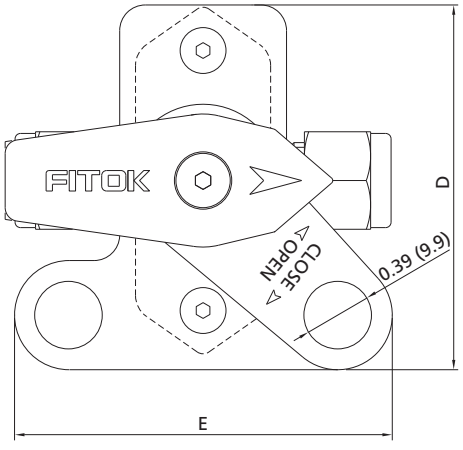
Item	Component	Material
1	Screw	SS
2	Handle	Aluminum or 304 SS
3	Lock Plate	304 SS/A240
4	Bracket	304 SS/A240

Note: Other components not listed are consistent with standard construction materials.

Dimensions

Dimensions, in inches (millimeters), are for reference only and are subject to change.





Orifice	Dimensions, in. (mm)				
	A	B	C	D	E
02/04	1.84 (46.9)	1.13 (28.6)	1.83 (46.5)	2.11 (53.5)	2.18 (55.5)
07	2.48 (63.0)	1.50 (38.1)	2.52 (64.1)	2.70 (68.6)	2.70 (68.6)

FITOK

Ordering Number Description

PVSS – FL8 – ML12 – FL8 – B04GV – L – 3SF2

Series	Body Material	Inlet 1 Type	Inlet 1 Size	Outlet 2/3 Type	Outlet 2/3 Size	O-ring Material	Orifice	Handle	Downstream Vent	Locking Device	Flow Pattern	Special Application	Cleaning and Packaging
PV	SS 316 SS 6L 316L SS S4 304 SS B Brass	FNS Female NPT NS Male NPT FRT Female BSPT RT Male BSPT FMS Female Metric Thread (for RG-M) MS Male Metric Thread (for RG-M) FRP Female BSPP (for RP) BP Male BSPP (for RG) FL Fractional Tube Fitting ML Metric Tube Fitting	2 1/8" 3 3 mm 4 1/4" 6 3/8" or 6 mm 8 1/2" or 8 mm 10 10 mm 12 3/4" or 12 mm	Same as Inlet 1	Specified in the same way as the inlet 1 type and size	Fluorocarbon FKM B Buna N E EPDM N Neoprene Z FFKM	02 0.09" (2.4 mm) 04 0.17" (4.4 mm) 07 0.28" (7.2 mm)	Black Handle① R Red Handle① GR Green Handle① Y Yellow Handle① B Blue Handle① U Black Bar Aluminum Handle② (2-way) SD Stainless Steel Directional Handle③ SH Stainless Steel Bar Handle②	No V YES (2-way)	No L Yes	2-way 3 3-way	No S NACE MR0175	FC-01 F2 FC-02

1. Standard thread pitch for metric threads are as follows:
   M10 and below: 1 mm
   M12 to M24: 1.5 mm
   Standard thread pitch should be omitted in the ordering number, others should be specified.
2. For oxygen-enriched environment or hazardous media service, please contact FITOK Group or our authorized distributors.
3. Cleaning and Packaging:
   FC-01: Standard cleaning and packaging for general industrial procedures.
   FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement of ASTM G93 Level C.

① The handle material of 2-way valves is nylon, while that of 3-way valves is aluminum.
② Please refer to the handles of 3-way valves for the appearance of bar handles.
③ Please refer to the handles of locking devices for the appearance of directional handles.

Note: "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.

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FK-IC-GV-06-EN-240531