

# Plug Valves

## PV Series

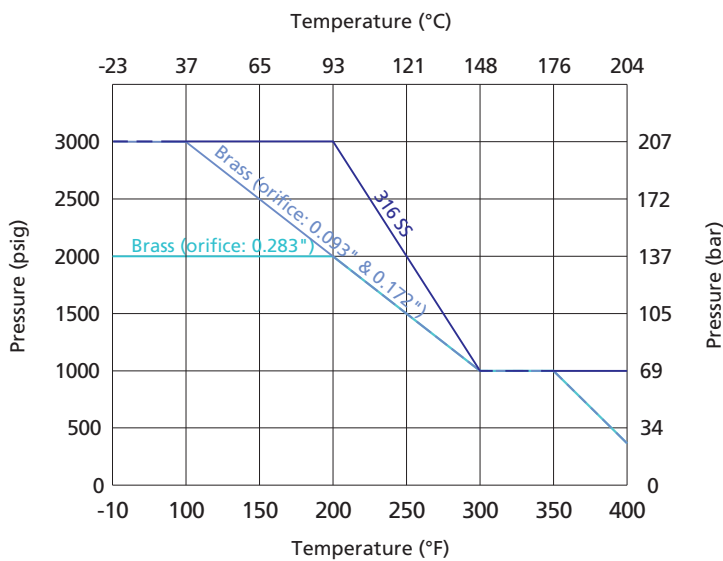
Ball Valves  
Plug Valves



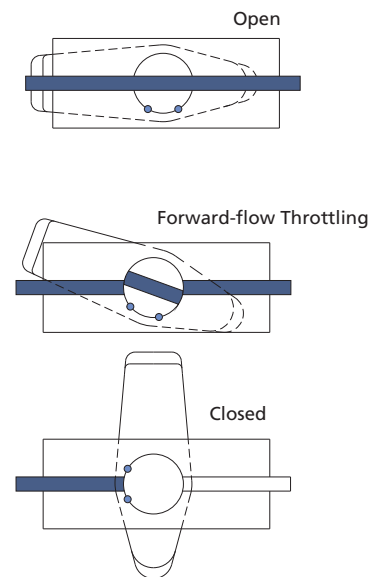
## Features

- ⦿ 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.

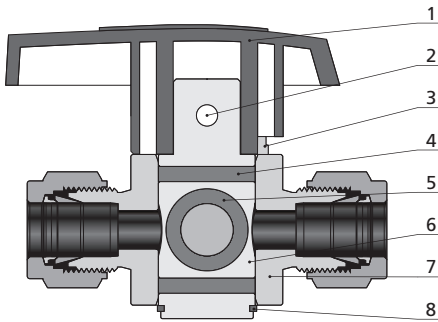
## Downstream Vents (2-way)

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

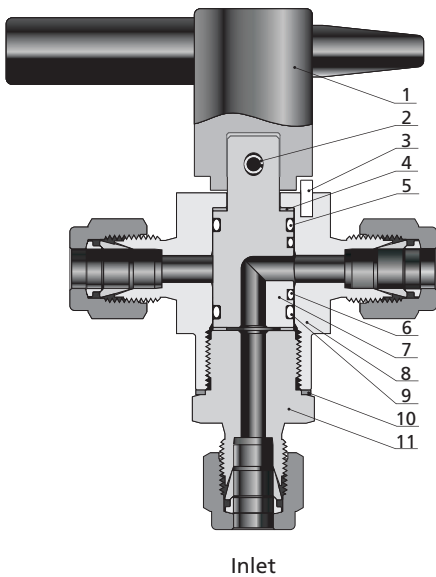
### 2-way



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	<i>Fluorocarbon FKM or Neoprene or EPDM or Buna N or Kalrez</i>	
5	O-ring	<i>Fluorocarbon FKM or Neoprene or EPDM or Buna N or Kalrez</i>	
6	Plug	<i>PTFE-coated 316 SS/A479</i>	<i>PTFE-coated brass/B453</i>
7	Body	<i>316 SS/A479</i>	<i>Brass/B453</i>
8	Retaining Ring	Stainless steel	
<i>Lubricant</i>		<i>Silicone-based</i>	

Note: Wetted components are italics.

### 3-way



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	<i>PTFE</i>	
5	O-ring	<i>Fluorocarbon FKM or Neoprene or EPDM or Buna N or Kalrez</i>	
6	O-ring	<i>Fluorocarbon FKM or Neoprene or EPDM or Buna N or Kalrez</i>	
7	Plug	<i>PTFE-coated 316 SS/A479</i>	<i>PTFE-coated brass/B453</i>
8	Body	<i>316 SS/A479</i>	<i>Brass/B453</i>
9	O-ring	<i>Fluorocarbon FKM or Neoprene or EPDM or Buna N or Kalrez</i>	
10	Gasket	<i>Silver-plated 316 SS/A479</i>	<i>Aluminum/B209</i>
11	Fitting	<i>316 SS/A479</i>	<i>Brass/B453</i>
<i>Lubricant</i>		<i>Silicone-based</i>	

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.

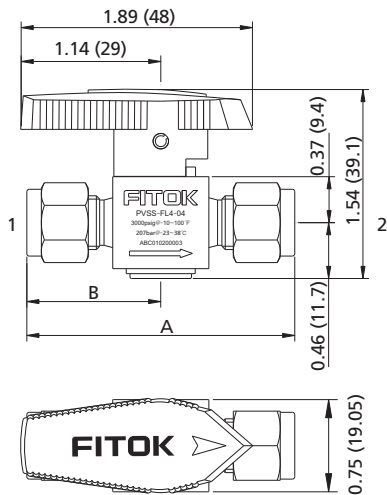
Note: Wetted components are italics.

## Dimensions

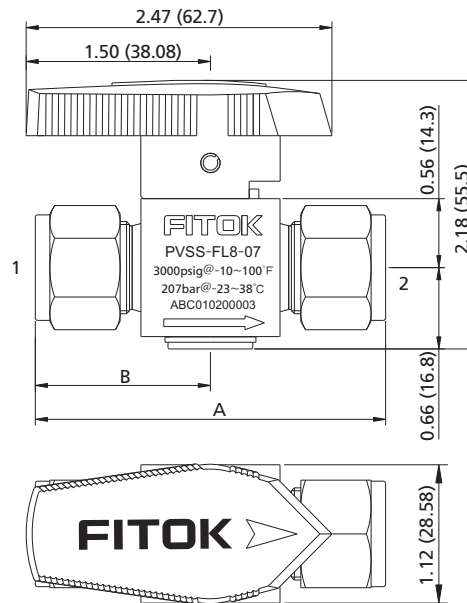
Dimensions, in inches (millimeters), are for reference only and are subject to change.

### 2-way Valves

Orifice code: 02 and 04



Orifice code: 07

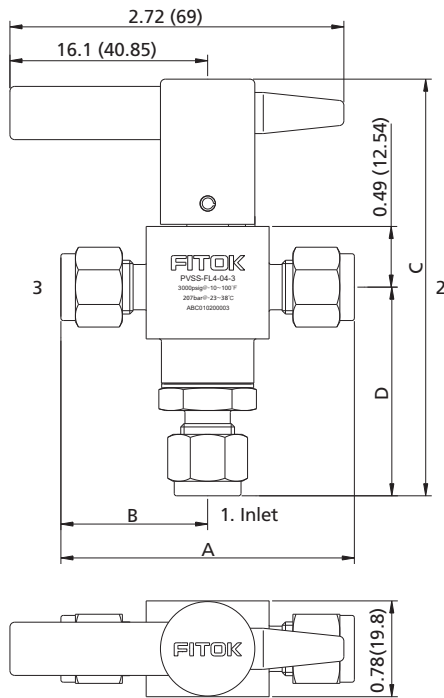


Basic Ordering Information	Connection Type and Size		Orifice in. (mm)	Cv	Dimensions, in. (mm)	
	Inlet 1	Inlet 2			A	B
PV□□-FL2-02	1/8" FITOK		0.09 (2.4)	0.1	1.99 (50.5)	0.98 (24.9)
PV□□-FL4-04	1/4" FITOK		0.17 (4.4)	1.6	2.17 (55.1)	1.08 (27.4)
PV□□-FL6-04	3/8" FITOK			1.1	2.29 (58.2)	1.14 (29.0)
PV□□-FL6-07	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)

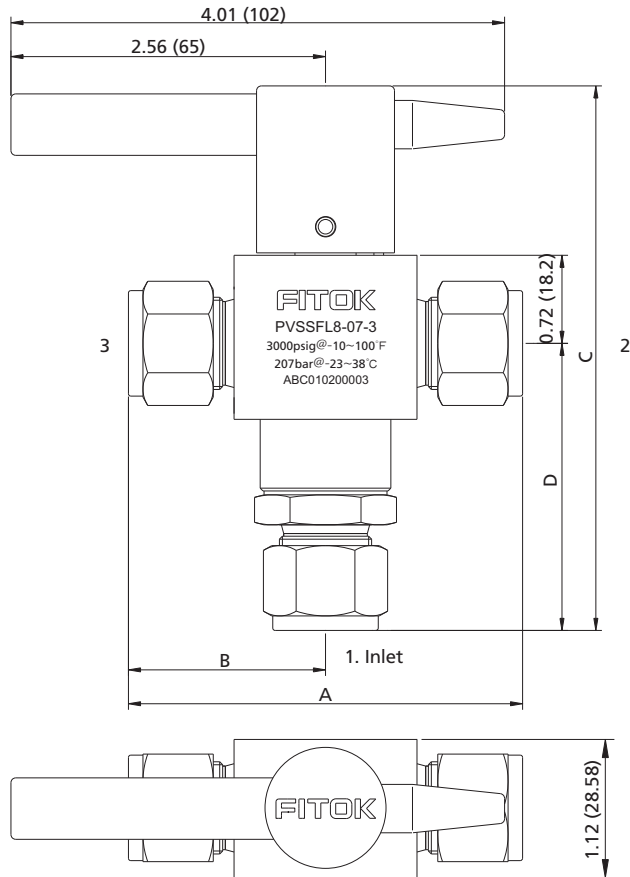
# B-66 Plug Valves

## 3-way Valves

Orifice code: 02 and 04



Orifice code: 07

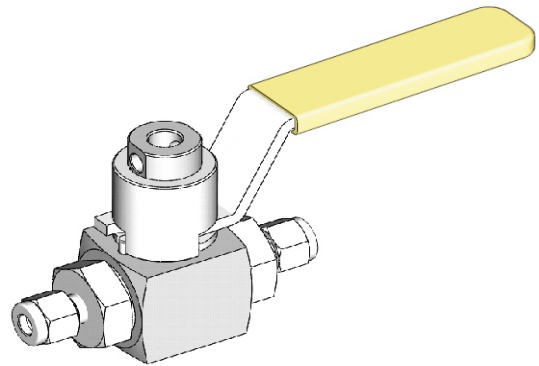


Basic Ordering Information	Connection Type and Size		Orifice in. (mm)	Dimensions, in. (mm)			
	Inlet 1	Inlet 2/3		A	B	C	D
PV□□-FL2-02-3	1/8" FITOK		0.09 (2.4)	2.19 (55.7)	1.09 (27.8)	3.29 (83.6)	1.60 (40.6)
PV□□-FL4-04-3	1/4" FITOK		0.17 (4.4)	2.40 (60.6)	1.20 (30.3)	3.39 (86.1)	1.69 (43.1)
PV□□-FL6-04-3	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					0.32(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

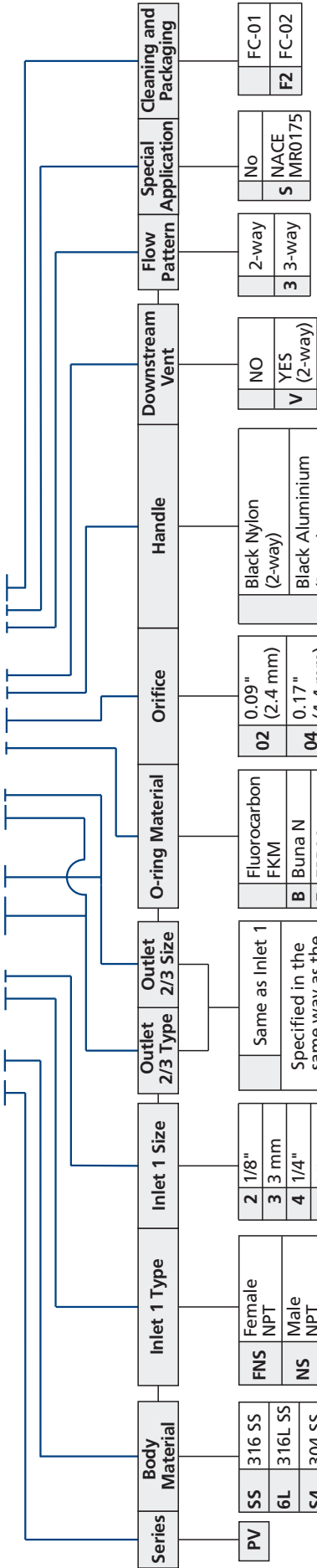
- ⦿ Lock the valve in the open or closed position.
- ⦿ For lever handle only, panel mounting available.
- ⦿ To order a plug valve with locking device, add -LK to the valve ordering number.  
Example: BPSS-FL4-10-LK
- ⦿ Locking device for on-site installation available, please order according to the table below:

Orifice	Locking Device Kit Ordering Number	Locking Device Ordering Number Content
10	BP54-LK10	Lock bar, lock bar sleeve
13	BP54-LK13	
19	BP54-LK19	



# Ordering Number Description

PVSS – FL8 – ML12 – FL8 – B04GV – 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	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	02 0.09" (2.4 mm) 04 0.17" (4.4 mm) 07 0.28" (7.2 mm)	Fluorocarbon FKM B Buna N E EPDM N Neoprene Z Kalrez	Black Nylon (2-way) Black Aluminium (3-way) Red Nylon (2-way) Red Aluminium (3-way) Green Nylon (2-way) Green Aluminium (3-way) Yellow Nylon (2-way) Yellow Aluminium (3-way) Blue Nylon (2-way) Blue Aluminium (3-way) Black Aluminium (2-way)	NO YES V (2-way)	2-way 3 3-way	No NACE S 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.

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-220622