

# Ball Valves

10B Series, 10,000 psi (690 bar)

15B Series, 15,000 psi (1034 bar)

20B Series, 20,000 psi (1379 bar)



## FIRTECH

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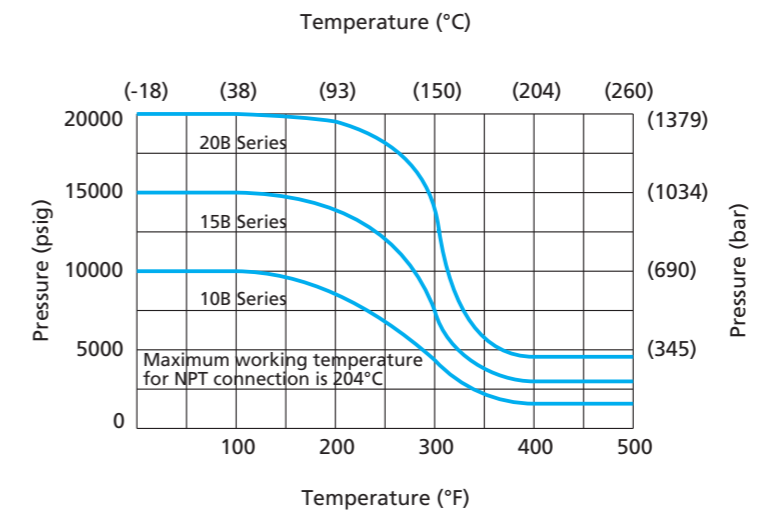
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## Features

- ⦿ One-piece, trunnion mounted style, ideal for severe duty applications.
- ⦿ Two-way and three-way valve configurations.
- ⦿ PEEK seats offer excellent resistance to chemicals, heat, and wear/abrasion.
- ⦿ Full-port flow path minimizes pressure drop.
- ⦿ 316 cold worked stainless steel construction.
- ⦿ Fluorocarbon FKM O-rings for operation from 0°F to 400°F (-17.8°C to 204°C).
- ⦿ Wide selection of O-rings available.
- ⦿ Wide selection of tube and pipe end fittings available.
- ⦿ Pneumatic actuator options. Please contact the FITOK Group for details of actuator options.

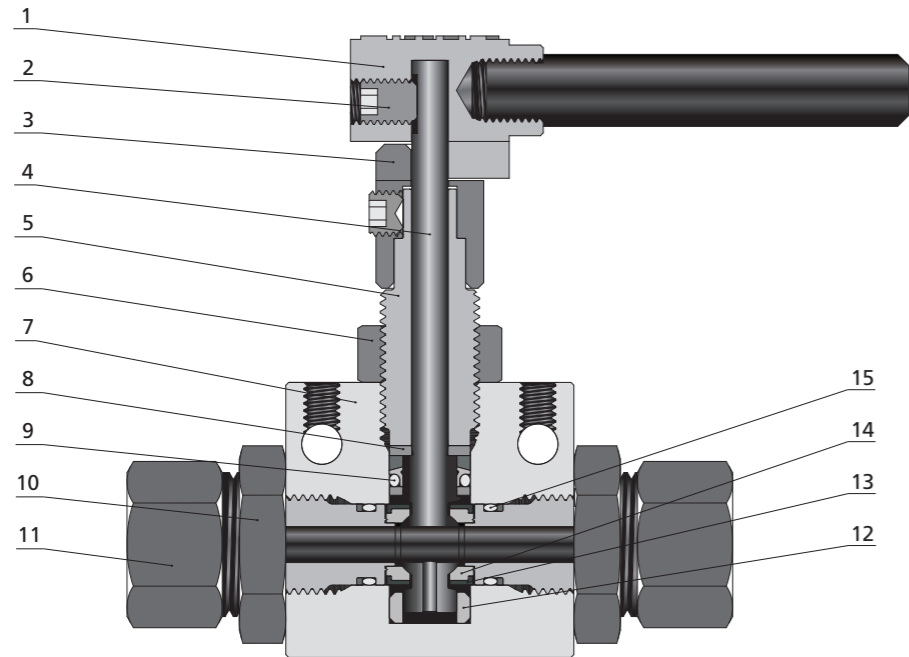
## Pressure & Temperature Curve



*NOTE: Ball valves are not recommended for critical gas applications such as Hydrogen, Helium or other small molecular gases.*

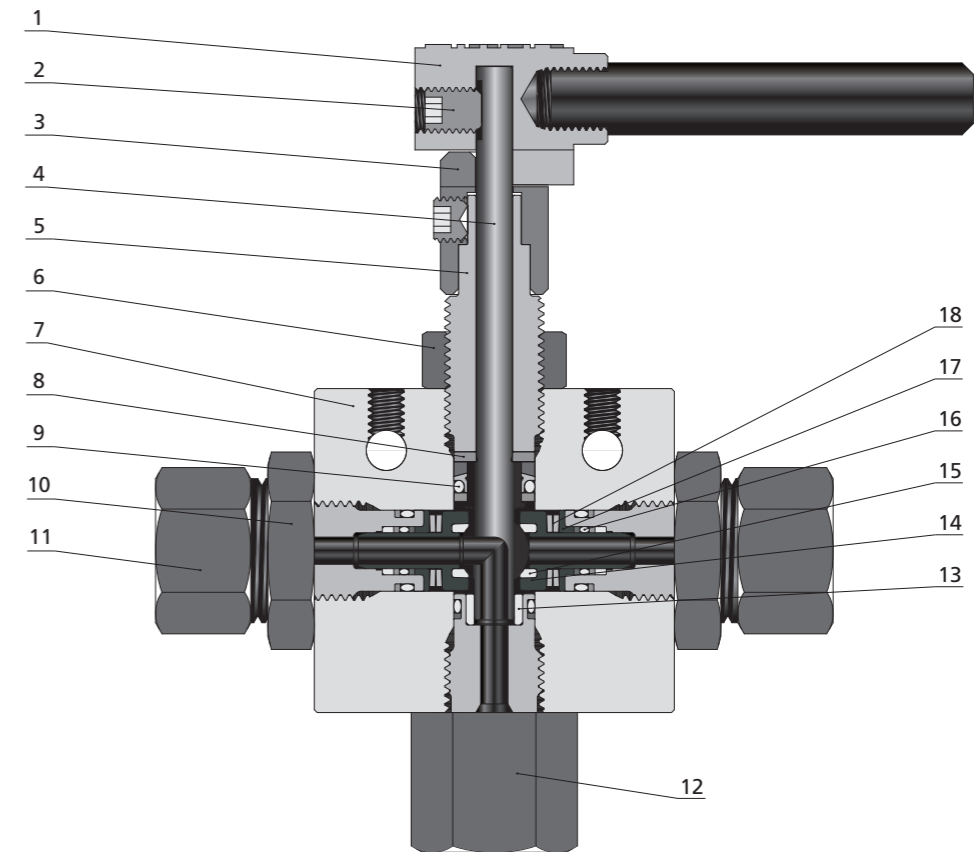
### Standard Materials of Construction

2-Way Straight Valves



Item	Component	Valve Material
1	Handle	Stainless Steel
2	Set Screw	Stainless Steel
3	Stopping Device	316 SS/A276
4	Ball Stem	316 SS/A479
5	Packing Gland	316 SS/A479
6	Locking Piece	316 SS/A276
7	Valve Body	316 SS/A479
8	Thrust Washer	Copper Alloy
9	Combination Seal	Fluorocarbon FKM
10	Lock Nut	316 SS/A276
11	Seat Gland	316 SS/A479
12	Bearing	PEEK
13	Seat Retainer	316 SS/A479
14	Seat	PEEK
15	End Seal	Fluorocarbon FKM
	Lubricant	Molybdenum Disulfide/Fluorinated-based

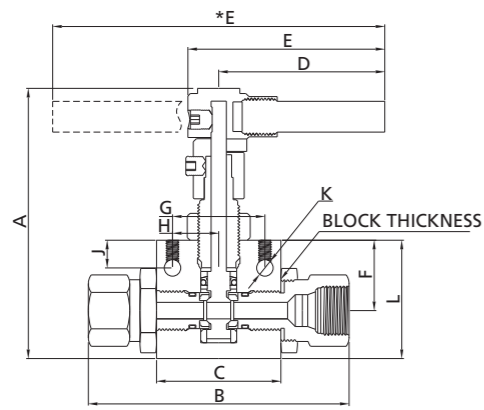
3-Way Valves



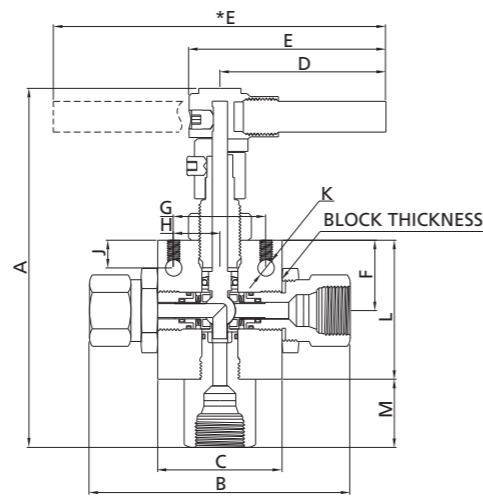
Item	Component	Valve Material
1	Handle	Stainless Steel
2	Set Screw	Stainless Steel
3	Stopping Device	316 SS/A276
4	Ball Stem	316 SS/A479
5	Packing Gland	316 SS/A479
6	Locking Piece	316 SS/A276
7	Valve Body	316 SS/A479
8	Thrust Washer	Copper Alloy
9	Combination Seal	Fluorocarbon FKM
10	Lock Nut	316 SS/A276
11	Seat Gland	316 SS/A479
12	Bottom Gland	316 SS/A479
13	Bearing	Copper Alloy
14	Seat Retainer	S17400/A564
15	Seat	Carbon Filled PEEK
16	End Seal	Fluorocarbon FKM
17	Belleville Backup	S17400/A564
18	Belleville Washers	17-7PH/A693
	Lubricant	Molybdenum Disulfide/Fluorinated-based

Dimensions

2-Way Straight Valves



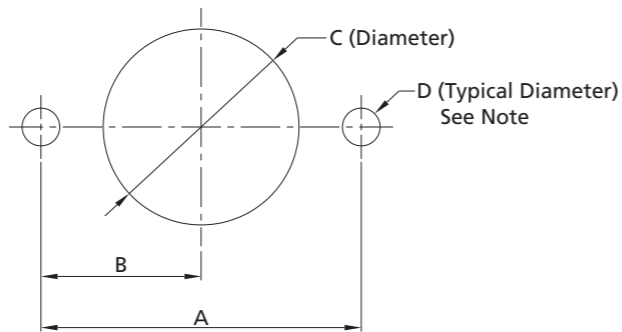
3-Way Valves



Body Style	Orifice No.	A	B	C	D	E	F	G	H	J	K	L	M	Block Thickness
		in. (mm)												
2-way		4.33 (110)	4.19 (106.5)	2 (50.8)	3.37 (85.6)	3.9 (99)	1.13 (28.6)	1.5 (38.1)	0.75 (19.1)	0.43 (10.9)	0.28 (7.1)	1.91 (48.4)		1 (25.4)
	6	4.97 (126.3)	5.53 (140.4)	3 (76.2)	4.99 (126.8)	5.52 (140.3)	1.38 (34.9)	2 (50.8)	1 (25.4)	0.41 (10.3)	0.28 (7.1)	2.5 (63.5)		1.38 (34.9)
	8	5.95 (151.1)	7.73 (196.5)	4.13 (104.8)	5.13 (130.2)	*10.25 (260.4)	1.76 (44.7)	3 (76.2)	1.5 (38.1)	0.5 (12.7)	0.28 (7.1)	3.09 (78.6)		1.75 (44.5)
3-way		5.64 (143.4)	4.72 (119.9)	2.5 (63.5)	3.37 (85.6)	3.9 (99)	1.13 (28.6)	1.5 (38.1)	0.75 (19.1)	0.43 (10.9)	0.28 (7.1)	2.25 (57.2)	0.97 (24.6)	1 (25.4)
	6	6.55 (166.4)	5.54 (140.8)	3 (76.2)	4.99 (126.8)	5.52 (140.3)	1.38 (34.9)	2 (50.8)	1 (25.4)	0.41 (10.3)	0.28 (7.1)	2.88 (73)	1.19 (30.2)	1.38 (34.9)
	8	7.83 (198.8)	7.77 (197.4)	4.13 (104.8)	5.13 (130.2)	*10.25 (260.4)	1.66 (42.2)	3 (76.2)	1.5 (38.1)	0.5 (12.7)	0.28 (7.1)	3.34 (84.9)	1.7 (43.2)	1.75 (44.5)

Ball Valve Panel Mounting Dimensions

Body Style	Orifice No.	A in. (mm)	B in. (mm)	C in. (mm)	D in. (mm)
2-way		1.5 (38.1)	0.75 (19.1)	1.06 (26.9)	0.28 (7.1)
	6	2 (50.8)	1 (25.4)	1.5 (38.1)	0.28 (7.1)
	8	3 (76.2)	1.5 (38.1)	1.88 (47.6)	0.28 (7.1)
3-way		1.5 (38.1)	0.75 (19.1)	1.06 (26.9)	0.28 (7.1)
	6	2 (50.8)	1 (25.4)	1.5 (38.1)	0.28 (7.1)
	8	3 (76.2)	1.5 (38.1)	1.88 (47.6)	0.28 (7.1)

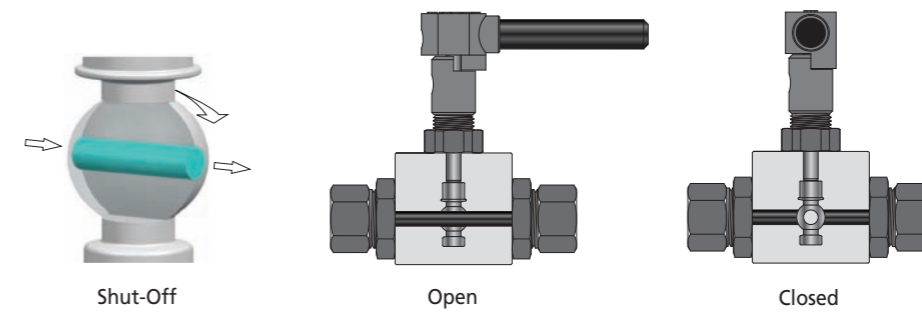


All dimensions are for reference only and are subject to change.

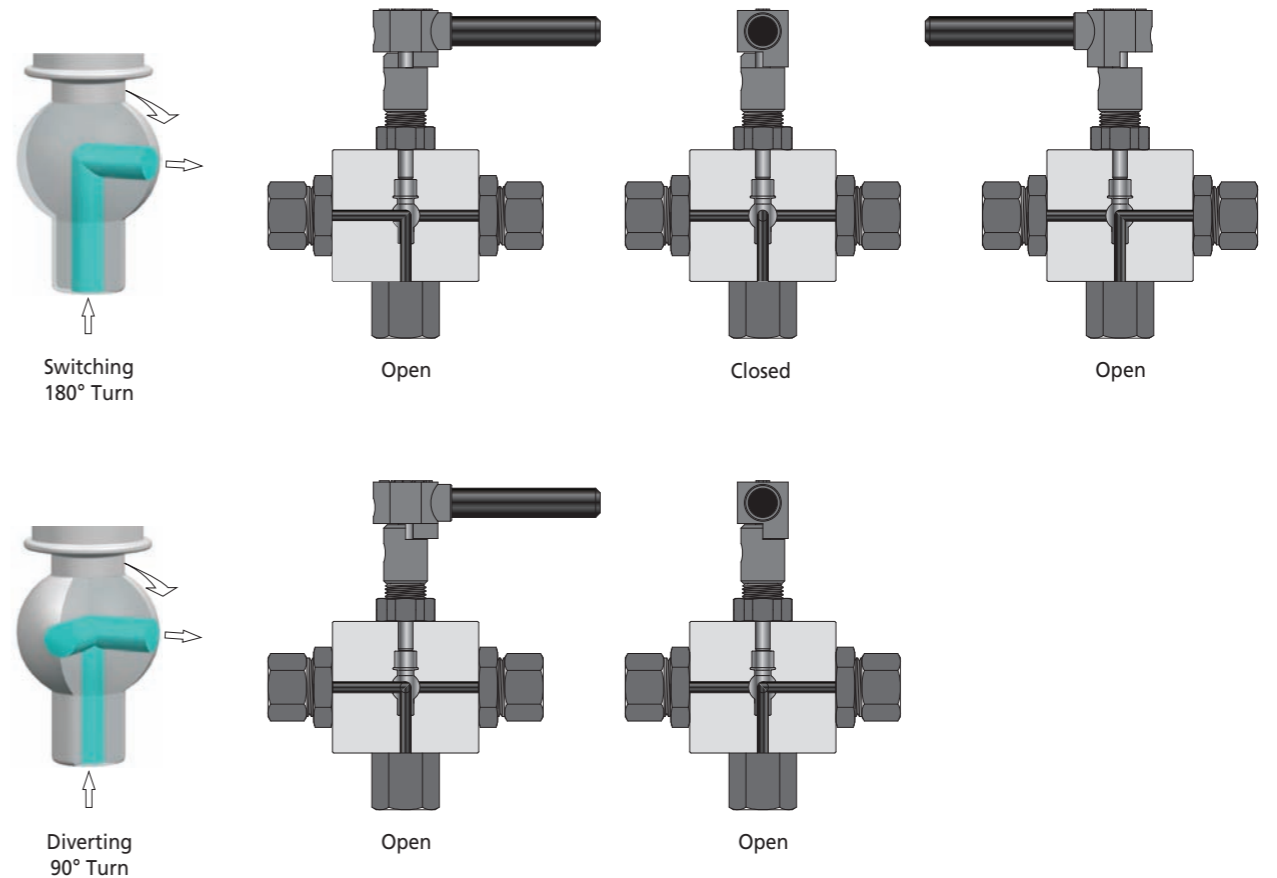
Note: Body mounting 1/4-20 thread

Flow Configuration

2-Way Straight Valves



3-Way Valves

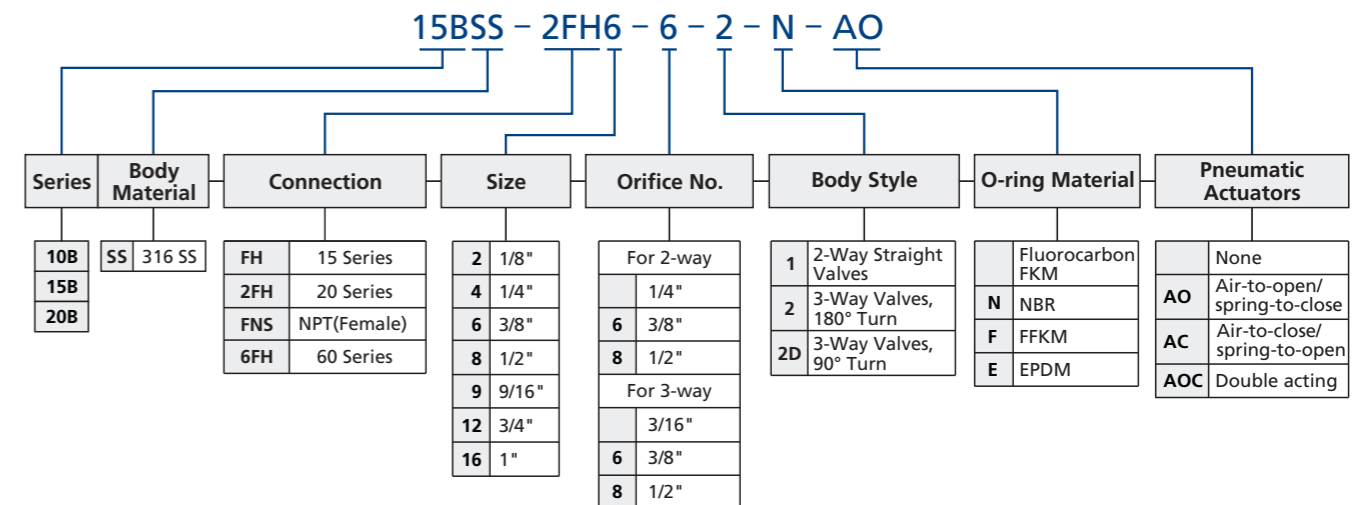


Part Number Description

Series	Body Style	Connection Type	Orifice No.	Orifice Size in. (mm)	Rated Cv	Catalog No.	Pressure/Temperature Rating psig (bar) @ Room Temperature				
10B	2-way	2FH12	8	0.5 (12.7)	10.2	10BSS-2FH12-8-1	10,000 (690)				
		2FH16		0.5 (12.7)	10.2	10BSS-2FH16-8-1					
		FNS12		0.5 (12.7)	10.2	10BSS-FNS12-8-1					
		FNS16		0.5 (12.7)	10.2	10BSS-FNS16-8-1					
	3-way	2FH12	8	0.5 (12.7)	4.4	10BSS-2FH12-8-2 10BSS-2FH12-8-2D					
		2FH16		0.5 (12.7)	4.4	10BSS-2FH16-8-2 10BSS-2FH16-8-2D					
		FNS12		0.5 (12.7)	4.4	10BSS-FNS12-8-2 10BSS-FNS12-8-2D					
		FNS16		0.5 (12.7)	4.4	10BSS-FNS16-8-2 10BSS-FNS16-8-2D					
		15B		2-way	FH2	6		0.094 (2.4)	0.26	15BSS-FH2-1	15,000 (1034)
					FH4			0.13 (3.25)	0.26	15BSS-FH4-1	
					FH6			0.25 (6.35)	1.51	15BSS-FH6-1	
					FH8			0.25 (6.35)	1.51	15BSS-FH8-1	
FNS2	0.25 (6.35)		1.51		15BSS-FNS2-1						
FNS4	0.25 (6.35)		1.51		15BSS-FNS4-1						
FNS6	0.25 (6.35)		1.51		15BSS-FNS6-1						
FNS8	0.25 (6.35)		1.51		15BSS-FNS8-1						
FH8	0.375 (9.5)		3.51		15BSS-FH8-6-1						
FNS4	0.375 (9.5)		3.51		15BSS-FNS4-6-1						
3-way	FH2		6	0.094 (2.4)	0.13	15BSS-FH2-2 15BSS-FH2-2D					
	FH4			0.13 (3.25)	0.23	15BSS-FH4-2 15BSS-FH4-2D					
	FH6			0.19 (4.78)	0.5	15BSS-FH6-2 15BSS-FH6-2D					
	FH8			0.19 (4.8)	0.5	15BSS-FH8-2 15BSS-FH8-2D					
	FNS2			0.19 (4.8)	0.5	15BSS-FNS2-2 15BSS-FNS2-2D					
	FNS4			0.19 (4.8)	0.5	15BSS-FNS4-2 15BSS-FNS4-2D					
	FNS6			0.19 (4.8)	0.5	15BSS-FNS6-2 15BSS-FNS6-2D					
	FNS8			0.19 (4.8)	0.5	15BSS-FNS8-2 15BSS-FNS8-2D					
3-way	FH8	6	0.33 (8.3)	2.1	15BSS-FH8-6-2 15BSS-FH8-6-2D						
	2FH6		0.2 (5.2)	0.81	15BSS-2FH6-6-2 15BSS-2FH6-6-2D						
	2FH9		0.31 (7.9)	1.9	15BSS-2FH9-6-2 15BSS-2FH9-6-2D						
	2FH12		0.33 (8.3)	2.1	15BSS-2FH12-6-2 15BSS-2FH12-6-2D						
	FNS4		0.33 (8.3)	2.1	15BSS-FNS4-6-2 15BSS-FNS4-6-2D						

Part Number Description (continue)

Series	Body Style	Connection Type	Orifice No.	Orifice Size in. (mm)	Rated Cv	Catalog No.	Pressure/Temperature Rating psig (bar) @ Room Temperature	
15B	3-way	FNS6	6	0.33 (8.3)	2.1	15BSS-FNS6-6-2 15BSS-FNS6-6-2D	15,000 (1034)	
				0.33 (8.3)	2.1	15BSS-FNS8-6-2 15BSS-FNS8-6-2D		
		2FH4		0.11 (2.8)	0.36	20BSS-2FH4-1		20,000 (1379)
				0.2 (5.2)	1.23	20BSS-2FH6-1		
2-way	2FH9	0.25 (6.35)	1.51	20BSS-2FH9-1				
	6FH4	0.094 (2.4)	0.26	20BSS-6FH4-1				
	6FH6	0.125 (3.2)	0.47	20BSS-6FH6-1				
	6FH9	0.19 (4.8)	1.05	20BSS-6FH9-1				
	2FH6	0.2 (5.2)	1.23	20BSS-2FH6-6-1				
	2FH9	0.31 (7.9)	2.93	20BSS-2FH9-6-1				
3-way	2FH4	6	0.375 (9.5)	3.51	20BSS-2FH12-6-1			
			0.11 (2.8)	0.17	20BSS-2FH4-2 20BSS-2FH4-2D			
	2FH6		0.19 (4.8)	0.5	20BSS-2FH6-2 20BSS-2FH6-2D			
	2FH9		0.19 (4.8)	0.5	20BSS-2FH9-2 20BSS-2FH9-2D			
	6FH4		0.094 (2.4)	0.13	20BSS-6FH4-2 20BSS-6FH4-2D			
	6FH6		0.125 (3.2)	0.22	20BSS-6FH6-2 20BSS-6FH6-2D			
	6FH9		0.19 (4.8)	0.5	20BSS-6FH9-2 20BSS-6FH9-2D			



Note: 1. Pneumatic actuator with 90° rotation is standard. 180° rotation is optional.  
 2. "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

Code	O-ring Material	Temperature Range
	Fluorocarbon FKM	0 to 400°F (-17.8 to 204°C)
N	NBR	-40 to 250°F (-40 to 121°C)
F	FFKM	-20 to 500°F (-29 to 260°C)
E	EPDM	-50 to 300°F (-45 to 148°C)