

Subsea Valves



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FITOK
Valves and Fittings

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Subsea Ball Valves

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

15SB Series, 15,000 psi (1,034 bar)

20SB Series, 20,000 psi (1,379 bar)



Features

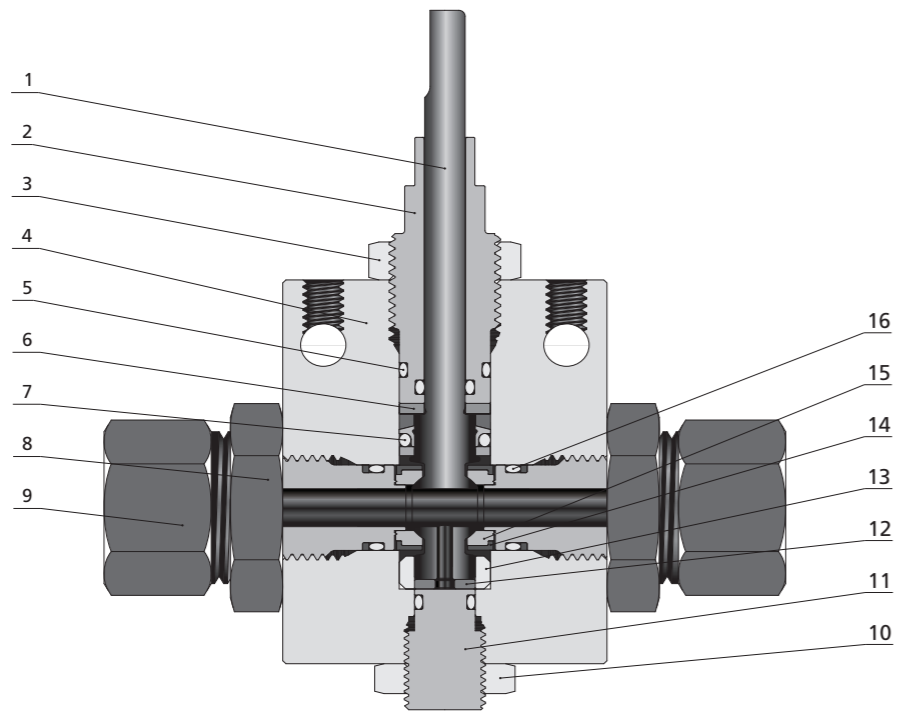
- ⦿ Rapid quarter turn action to provide quick open/close action for easy ROV or diver operation
- ⦿ One-piece, trunnion mounted style, ideal for severe duty application
- ⦿ 2-way and 3-way valve configurations available
- ⦿ PEEK seats to offer excellent resistance against chemicals, heat and abrasion
- ⦿ Full-port flow path to minimize pressure drop
- ⦿ 316 cold-worked stainless steel construction
- ⦿ NBR O-rings for temperature from 0°F to 250°F (-18°C to 121°C)
- ⦿ Wide selection of tube and pipe end fittings available
- ⦿ NACE MR0175 compliant
- ⦿ Different wetted material optional

Technical Data

- ⦿ Maximum working pressure: 20,000 psig (1,379 bar)
- ⦿ Working temperature: 0°F to 250°F (-18°C to 121°C)
- ⦿ Maximum water depth: 13,800 ft (4,200 meters)
- ⦿ Maximum external pressure: 6,000 psig (414 bar)

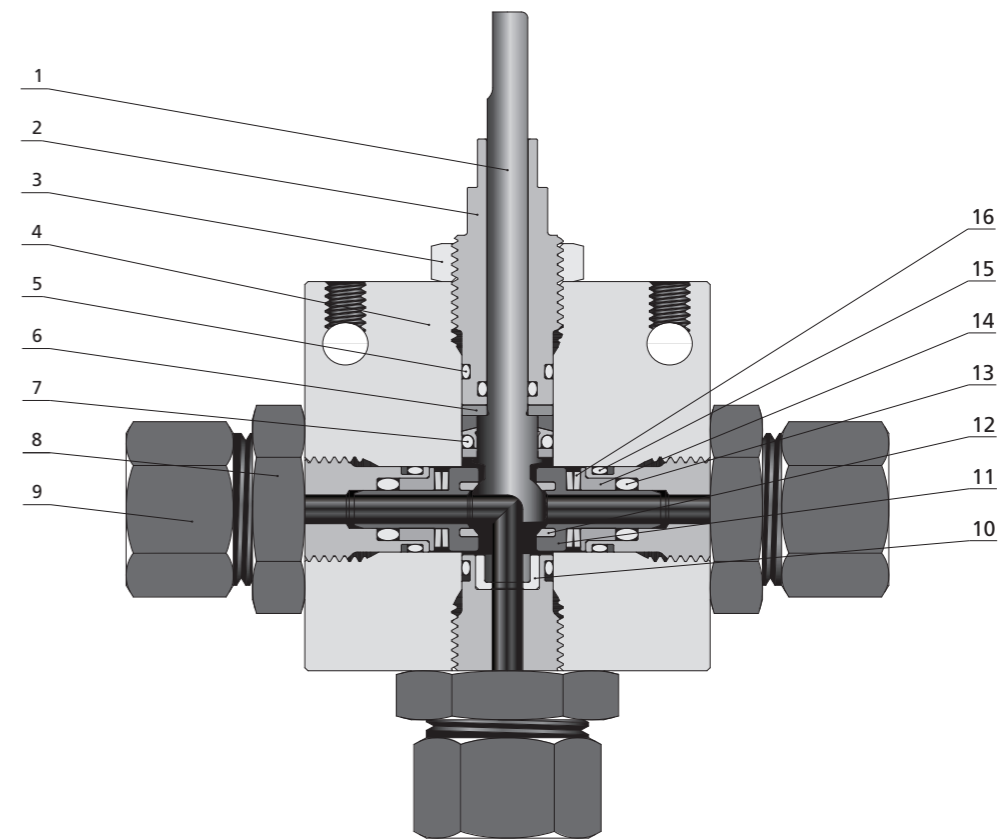
Standard Materials of Construction

2-Way Straight Valves



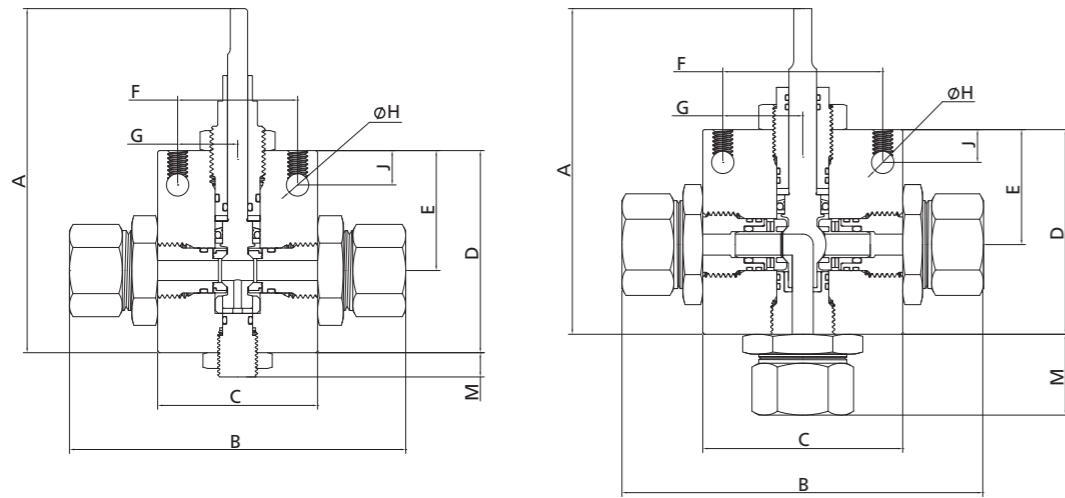
Item	Component	Material Grade
1	Ball Stem	316 SS/A479
2	Packing Gland	316 SS/A479
3	Locking Piece	316 SS/A276
4	Valve Body	316 SS/A479
5	O-ring	NBR
6	Thrust Washer	C63000/B150
7	O-ring	NBR
8	Lock Nut	316 SS/A276
9	Seat Gland	316 SS/A479
10	Locking Piece	316 SS/A276
11	Bottom Gland	316 SS/A479
12	Bottom Thrust Washer	C6300/B150
13	Bearing	PEEK
14	Seat	PEEK
15	O-ring	NBR
16	Seat Retainer	316 SS/A479
	Lubricant	Molybdenum Disulfide/Fluorinated-based

3-Way Straight Valves



Item	Component	Material Grade
1	Ball Stem	316 SS/A479
2	Packing Gland	316 SS/A479
3	Locking Piece	316 SS/A276
4	Valve Body	316 SS/A479
5	O-ring	NBR
6	Thrust Washer	C63000/B150
7	O-ring	NBR
8	Lock Nut	316 SS/A276
9	Seat Gland	316 SS/A479
10	Bearing	C63000/B150
11	Seat Retainer	316 SS/A479
12	Seat	Carbon Filled PEEK
13	O-ring	NBR
14	Belleville Backup	316 SS/A276
15	O-ring	NBR
16	Belleville Washers	17-7PH/A693
	Lubricant	Molybdenum Disulfide/Fluorinated-based

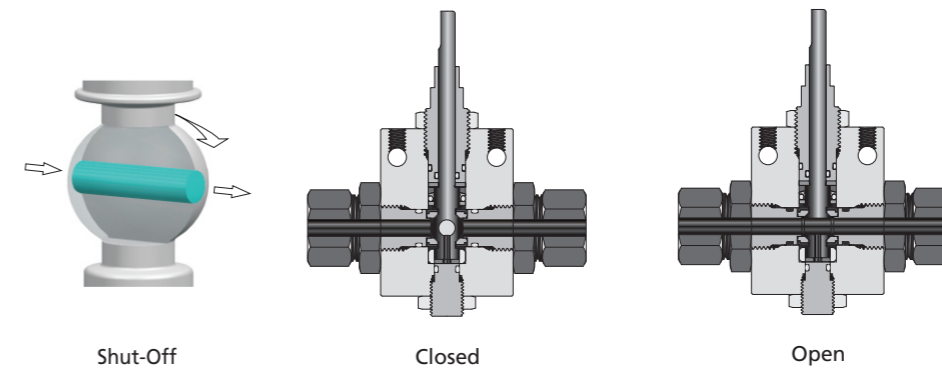
Dimensions



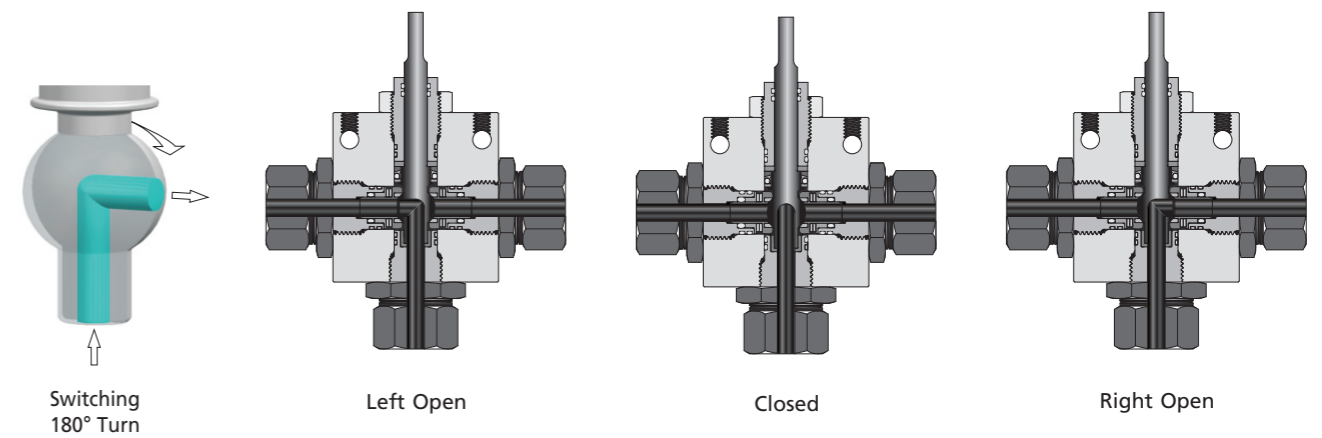
Body Style	Orifice No.	A	B	C	D	E	F	G	H	J	M	Block Thickness
		in. (mm)										
2-way	4	4.31 (109.3)	4.18 (106.3)	2 (50.8)	2.53 (64.2)	1.5 (38.1)	1.5 (38.1)	0.75 (19.05)	0.28 (7.1)	0.43 (10.9)	0.31 (7.7)	1 (25.4)
	6	5.78 (146.8)	5.53 (140.3)	3 (76.2)	3.28 (83.3)	1.78 (45.2)	2.5 (63.5)	1.25 (31.75)	0.28 (7.1)	0.41 (10.3)	0.76 (19.2)	1.38 (34.9)
	8	6.44 (163.5)	7.73 (196.4)	4.13 (104.8)	4 (101.6)	2.08 (52.8)	3 (76.2)	1.5 (38.1)	0.28 (7.1)	0.5 (12.7)	0.88 (22.4)	1.75 (44.5)
3-way	4	4.34 (110.2)	4.72 (119.9)	2.5 (63.5)	2.56 (65)	1.5 (38.1)	2.5 (63.5)	1.25 (31.75)	0.28 (7.1)	0.41 (10.3)	1.8 (45.8)	1 (25.4)
	6	5.09 (129.3)	5.74 (145.8)	3 (76.2)	3.03 (77)	1.63 (41.4)	2 (50.8)	1 (25.4)	0.28 (7.1)	0.41 (10.3)	1.28 (32.5)	1.38 (34.9)
	8	5.94 (150.8)	7.77 (197.4)	4.13 (104.9)	3.62 (91.9)	2 (50.8)	3 (76.2)	1.5 (38.1)	0.28 (7.1)	0.5 (12.7)	1.79 (45.5)	1.75 (44.5)

Flow Configuration

2-Way Straight Valves

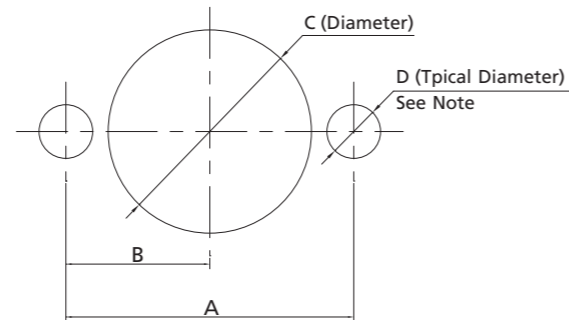


3-Way Valves

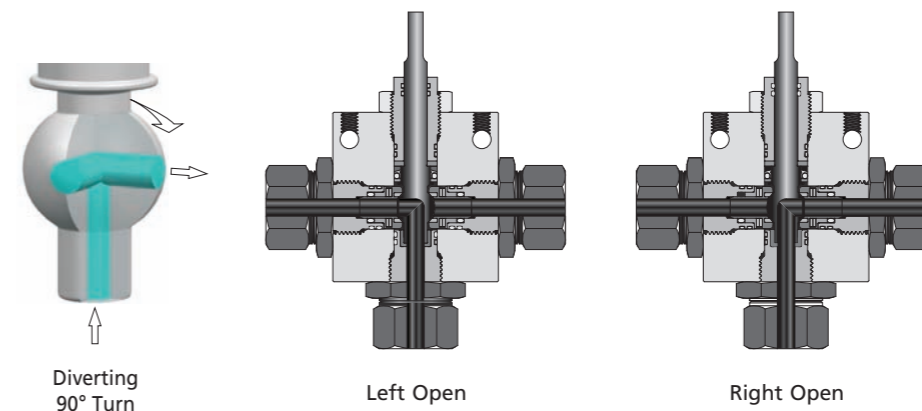


Ball Valve Panel Mounting Dimensions

Body Style	Orifice No.	A	B	C	D
		in. (mm)			
2-way	4	1.5 (38.1)	0.75 (19.1)	1.06 (26.9)	0.28 (7.1)
	6	2.5 (63.5)	1.25 (31.75)	1.88 (47.6)	0.28 (7.1)
	8	3 (76.2)	1.5 (38.1)	1.88 (47.6)	0.28 (7.1)
3-way	4	2.5 (63.5)	1.25 (31.75)	1.88 (47.6)	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.



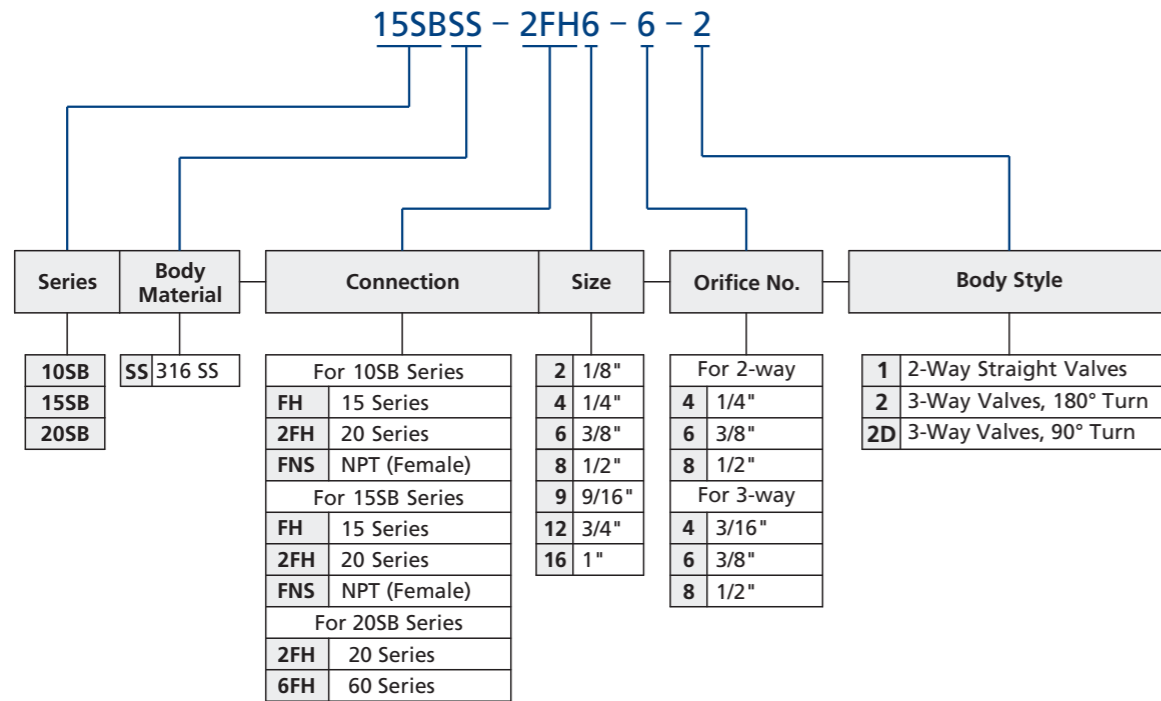
Part Number Description

Ordering Number	Body Style	Connection Type	Orifice NO.	Orifice size in. (mm)	Rated Cv	Pressure/Temperature Rating psig (bar) @ Room Temperature		
10SBSS-FH8-4-1	2-way	FH8	4	0.25 (6.35)	1.51	10,000 (690)		
10SBSS-FH8-6-1		FH8	6	0.375 (9.52)	3.51			
10SBSS-FNS12-8-1		FNS12	8	0.5 (12.7)	10.2			
10SBSS-FNS16-8-1		FNS16		0.5 (12.7)	10.2			
10SBSS-FH8-6-2	3-way	FH8	6	0.328 (8.33)	2.1			
10SBSS-FH8-6-2D		FH8		0.328 (8.33)	2.1			
10SBSS-2FH6-6-2		2FH6		0.203 (5.16)	0.81			
10SBSS-2FH6-6-2D		2FH6		0.203 (5.16)	0.81			
10SBSS-2FH9-6-2		2FH9		0.312 (7.92)	1.9			
10SBSS-2FH9-6-2D		2FH9		0.312 (7.92)	1.9			
10SBSS-2FH12-6-2		2FH12	8	0.328 (8.33)	2.1			
10SBSS-2FH12-6-2D		2FH12		0.328 (8.33)	2.1			
10SBSS-FNS4-6-2		FNS4		0.328 (8.33)	2.1			
10SBSS-FNS4-6-2D		FNS4		0.328 (8.33)	2.1			
10SBSS-FNS6-6-2		FNS6		0.328 (8.33)	2.1			
10SBSS-FNS6-6-2D		FNS6		0.328 (8.33)	2.1			
10SBSS-FNS8-6-2	FNS8	8	0.328 (8.33)	2.1				
10SBSS-FNS8-6-2D					0.328 (8.33)	2.1		
10SBSS-2FH12-8-2	2FH12		0.5 (12.7)	4.4				
10SBSS-2FH12-8-2D	2FH12		0.5 (12.7)	4.4				
10SBSS-2FH16-8-2	2FH16		0.5 (12.7)	4.4				
10SBSS-2FH16-8-2D	2FH16		0.5 (12.7)	4.4				
10SBSS-FNS12-8-2	FNS12	8	0.5 (12.7)	4.4				
10SBSS-FNS12-8-2D					0.5 (12.7)	4.4		
10SBSS-FNS16-8-2					FNS16	8	0.5 (12.7)	4.4
10SBSS-FNS16-8-2D								
15SBSS-FH2-4-1	2-way	FH2	4	0.094 (2.39)	0.26		15,000 (1,034)	
15SBSS-FH4-4-1		FH4		0.128 (3.25)	0.26			
15SBSS-FH6-4-1		FH6		0.25 (6.35)	1.51			
15SBSS-FNS2-4-1		FNS2		0.25 (6.35)	1.51			

Part Number Description

Ordering Number	Body Style	Connection Type	Orifice NO.	Orifice size in. (mm)	Rated Cv	Pressure/Temperature Rating psig (bar) @ Room Temperature		
15SBSS-FNS4-4-1	2-way	FNS4	4	0.25 (6.35)	1.51	15,000 (1,034)		
15SBSS-FNS6-4-1		FNS6		0.25 (6.35)	1.51			
15SBSS-FNS8-4-1		FNS8		0.25 (6.35)	1.51			
15SBSS-FNS4-6-1		FNS4	6	0.375 (9.52)	3.51			
15SBSS-FNS6-6-1		FNS6		0.375 (9.52)	3.51			
15SBSS-FNS8-6-1		FNS8		0.375 (9.52)	3.51			
15SBSS-FNS4-4-2	3-way	FNS4	4	0.188 (4.77)	0.50			
15SBSS-FNS4-4-2D				0.188 (4.77)	0.50			
15SBSS-FNS6-4-2		FNS6		0.188 (4.77)	0.50			
15SBSS-FNS6-4-2D				0.188 (4.77)	0.50			
20SBSS-2FH4-4-1	2-way	2FH4	4	0.109 (2.77)	0.36		20,000 (1,379)	
20SBSS-2FH6-4-1		2FH6		0.203 (5.16)	1.23			
20SBSS-2FH9-4-1		2FH9		0.25 (6.35)	1.51			
20SBSS-6FH4-4-1		6FH4		0.094 (2.39)	0.26			
20SBSS-6FH6-4-1		6FH6		0.125 (3.17)	0.47			
20SBSS-6FH9-4-1		6FH9		0.188 (4.77)	1.05			
20SBSS-2FH6-6-1		FNS6	6	0.203 (5.16)	1.23			
20SBSS-2FH9-6-1				0.312 (7.92)	2.93			
20SBSS-2FH12-6-1				0.375 (9.52)	3.51			
20SBSS-2FH4-4-2				2FH4	4	0.109 (2.39)		0.17
20SBSS-2FH4-4-2D						0.109 (2.39)		0.17
20SBSS-2FH6-4-2				2FH6		0.188 (4.77)		0.5
20SBSS-2FH6-4-2D	0.188 (4.77)	0.5						
20SBSS-2FH9-4-2	2FH9	4	0.188 (4.77)	0.5				
20SBSS-2FH9-4-2D			0.188 (4.77)	0.5				
20SBSS-6FH4-4-2			6FH4	0.094 (2.39)	0.13			
20SBSS-6FH4-4-2D				0.094 (2.39)	0.13			
20SBSS-6FH6-4-2	6FH6	4	0.125 (3.17)	0.22				
20SBSS-6FH6-4-2D			0.125 (3.17)	0.22				

Part Number Description



Note: Most configurations are available but not everyone.

Subsea Check Valves



Features

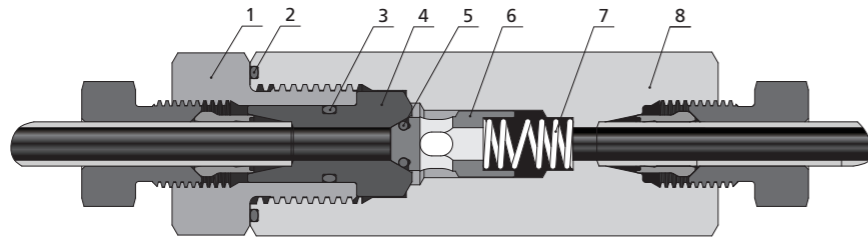
- ⦿ Provides unidirectional flow and tight shut-off for liquids and gas with high reliability. When differential drops below cracking pressure, valve shuts off (Not for use as relief valve)
- ⦿ Soft seat seal ring style or metal to metal seat poppet style available
- ⦿ PTFE seat to offer excellent resistance against harsh chemicals
- ⦿ 316 cold-worked stainless steel construction
- ⦿ NACE MR0175 compliant

Technical Data

- ⦿ Maximum working pressure: 20,000 psig (1,379 bar)
- ⦿ Working temperature: -20°F to 250°F (-29°C to 121°C)
- ⦿ Maximum water depth: 13,800 ft (4,200 meters)
- ⦿ Maximum external pressure: 6,000 psig (414 bar)
- ⦿ Cracking pressure: 14 psig~26 psig (0.966 bar~1.794 bar)

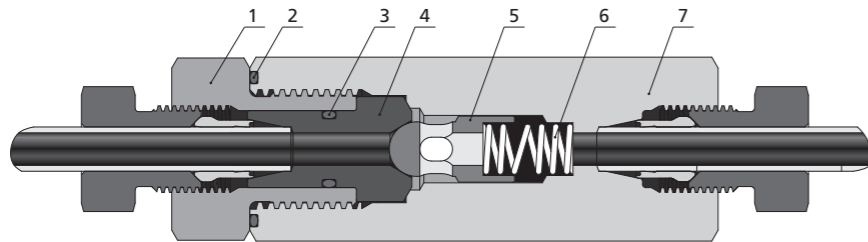
Standard Materials of Construction

SC Series



Item	Component	Material
1	Cover Gland	316/A479
2	Seal Ring	HNBR
3	Seal Ring	HNBR
4	Cover	316/A479
5	Seal Ring	Wide Selection of O-rings Available
6	Ball Poppet	316/A479
7	Spring	300 SS
8	Valve Body	316/A479

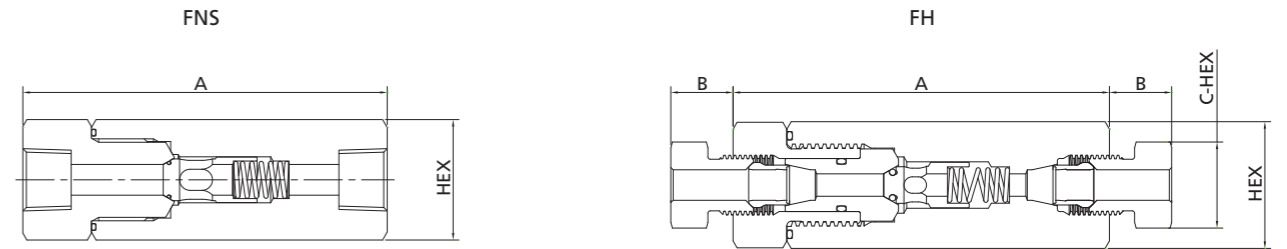
SCO Series



Item	Component	Material
1	Cover Gland	316/A479
2	Seal Ring	HNBR
3	Seal Ring	HNBR
4	Cover	316/A479
5	Ball Poppet	316/A479
6	Spring	300 SS
7	Valve Body	316/A479

Note: Please contact the FITOK Group for more information on wetted materials (Exp: 2507 SD), seal materials and operational designs to fulfill your application requirements.

Technical Data and Dimensions

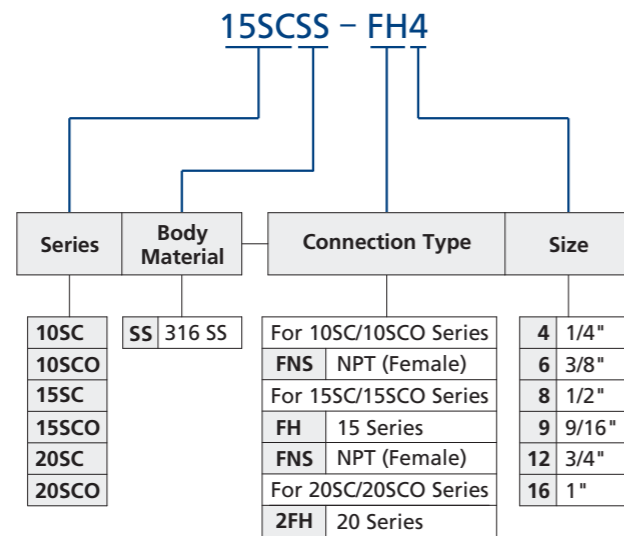


Ordering Number	Connection Type	Orifice Size in. (mm)	Rated Cv	A	B	C-HEX	HEX	Pressure/Temperature Rating psig (bar) @ Room Temperature
				in. (mm)				
10SCSS-FNS12	FNS12	0.52 (13.21)	4.70	6.29 (159.77)	—	—	1.75 (44.45)	10,000 (690)
10SCSS-FNS16	FNS16	0.69 (17.53)	7.40	7.33 (186.18)	—	—	1.88 (47.75)	
10SCOSS-FNS12	FNS12	0.52 (13.21)	4.70	6.29 (159.77)	—	—	1.75 (44.45)	
10SCOSS-FNS16	FNS16	0.69 (17.53)	7.40	7.33 (186.18)	—	—	1.88 (47.75)	
15SCSS-FH4	FH4	0.188 (4.78)	0.63	3.18 (80.77)	0.44 (11.18)	0.63 (16.00)	0.81 (20.57)	15,000 (1,034)
15SCSS-FH6	FH6	0.250 (6.35)	1.70	3.56 (90.42)	0.53 (13.46)	0.75 (19.05)	1.00 (25.40)	
15SCSS-FH8	FH8	0.375 (9.53)	3.40	4.18 (106.17)	0.53 (13.46)	0.93 (23.62)	1.38 (35.05)	
15SCOSS-FH4	FH4	0.188 (4.78)	0.63	3.18 (80.77)	0.44 (11.18)	0.63 (16.00)	0.81 (20.57)	
15SCOSS-FH6	FH6	0.250 (6.35)	1.70	3.56 (90.42)	0.53 (13.46)	0.75 (19.05)	1.00 (25.40)	
15SCOSS-FH8	FH8	0.375 (9.53)	3.40	4.18 (106.17)	0.53 (13.46)	0.93 (23.62)	1.38 (35.05)	
15SCSS-FNS4	FNS4	0.12 (3.05)	0.28	3.37 (85.60)	—	—	0.94 (23.81)	
15SCSS-FNS6	FNS6	0.22 (5.59)	0.84	3.95 (100.33)	—	—	1.13 (28.58)	
15SCSS-FNS8	FNS8	0.36 (9.12)	2.30	5.36 (136.14)	—	—	1.38 (35.05)	
15SCOSS-FNS4	FNS4	0.12 (3.05)	0.28	3.37 (85.60)	—	—	0.94 (23.81)	20,000 (1,379)
15SCOSS-FNS6	FNS6	0.22 (5.59)	0.84	3.95 (100.33)	—	—	1.13 (28.58)	
15SCOSS-FNS8	FNS8	0.36 (9.12)	2.30	5.36 (136.14)	—	—	1.38 (35.05)	
20SCSS-2FH4	2FH4	0.125 (3.18)	0.28	2.94 (74.68)	0.38 (9.65)	0.50 (12.70)	0.81 (20.57)	
20SCSS-2FH6	2FH6	0.218 (5.54)	0.84	3.12 (79.25)	0.47 (11.94)	0.62 (15.75)	1.00 (25.40)	20,000 (1,379)
20SCSS-2FH9	2FH9	0.359 (9.12)	2.30	4.18 (106.17)	0.53 (13.46)	0.94 (23.81)	1.38 (35.05)	
20SCSS-2FH12	2FH12	0.516 (13.11)	4.70	5.50 (139.70)	0.62 (15.75)	1.19 (30.23)	1.75 (44.45)	
20SCSS-2FH16	2FH16	0.688 (17.48)	7.40	6.63 (168.40)	0.72 (18.29)	1.38 (35.05)	2.12 (53.85)	

Technical Data and Dimensions

Ordering Number	Connection Type	Orifice Size in. (mm)	Rated Cv	A	B	C-HEX	HEX	Pressure/Temperature Rating psig (bar) @ Room Temperature
				in. (mm)				
20SCOSS-2FH4	2FH4	0.125 (3.18)	0.28	2.94 (74.68)	0.38 (9.65)	0.50 (12.70)	0.81 (20.57)	20,000 (1,379)
20SCOSS-2FH6	2FH6	0.218 (5.54)	0.84	3.12 (79.25)	0.47 (11.94)	0.62 (15.75)	1.00 (25.40)	
20SCOSS-2FH9	2FH9	0.359 (9.12)	2.30	4.18 (106.17)	0.53 (13.46)	0.94 (23.81)	1.38 (35.05)	
20SCOSS-2FH12	2FH12	0.516(13.11)	4.70	5.50 (139.70)	0.62 (15.75)	1.19 (30.23)	1.75 (44.45)	
20SCOSS-2FH16	2FH16	0.688(17.48)	7.40	6.63 (168.40)	0.72 (18.29)	1.38 (35.05)	2.12 (53.85)	

Part Number Description



Note: Most configurations are available but not everyone.

Subsea Needle Valves

Features

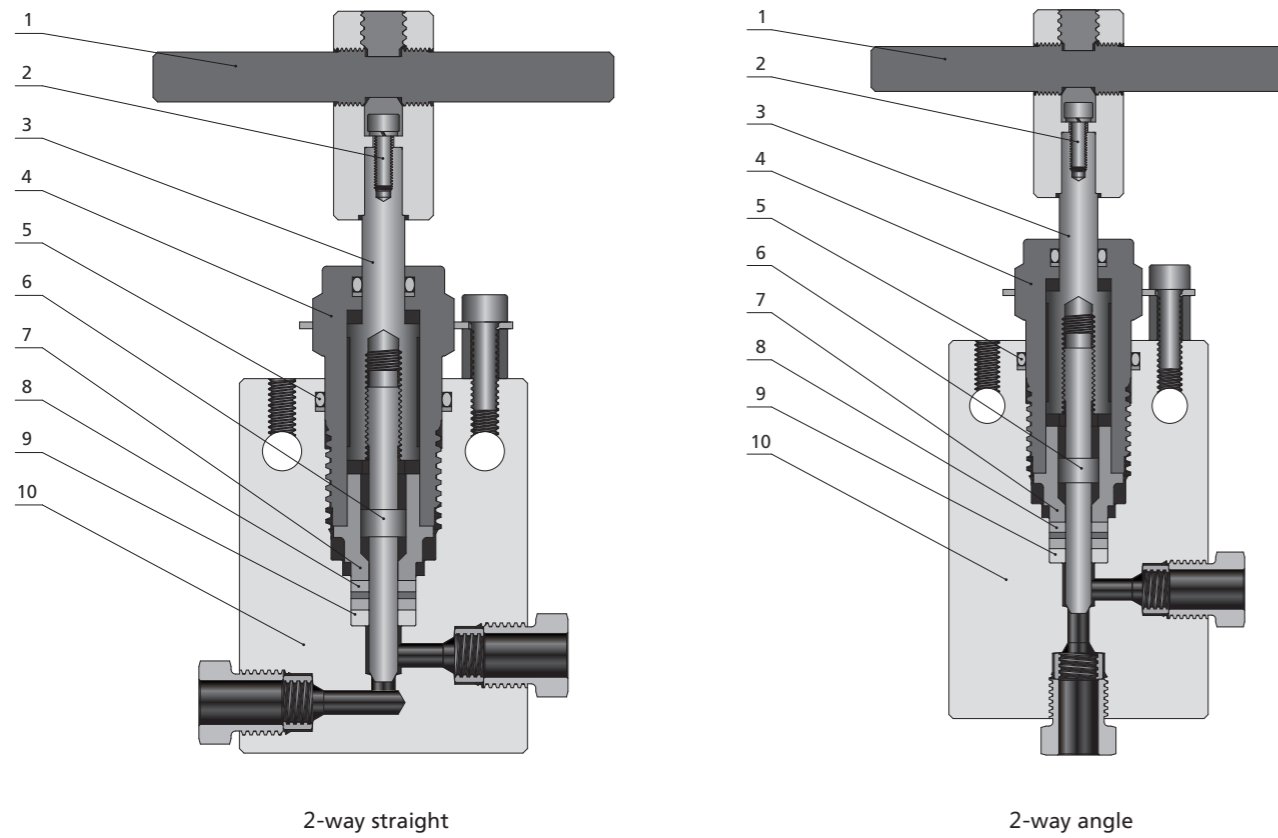
- ⦿ Non-rotating, non-rising stem to ensure positive non-galling operation when shut-off
- ⦿ Standard stem seal material: Glass filled PTFE
- ⦿ Packing is under the threads of valve stem
- ⦿ Metal-to-metal seating to ensure ideal shut-off, longer stem/seat service lifetime for abrasive flow, excellent corrosion resistance and greater durability for repeated on/off cycles
- ⦿ Reliable locking device of packing gland
- ⦿ Wide selection of tube and pipe end fittings available
- ⦿ 2-way straight and 2-way angle available for flow pattern
- ⦿ 316 cold-worked stainless steel construction
- ⦿ NACE MR0175 compliant



Technical Data

- ⦿ Orifice: 0.203"
- ⦿ Rated CV: 0.75
- ⦿ Maximum working pressure: 20,000 psig (1,379 bar)
- ⦿ Working temperature: 0°F to 250°F (-18°C to 121°C)
- ⦿ Maximum water depth: 13,800 ft (4,200 meters)
- ⦿ Maximum external pressure: 6,000 psig (414 bar)

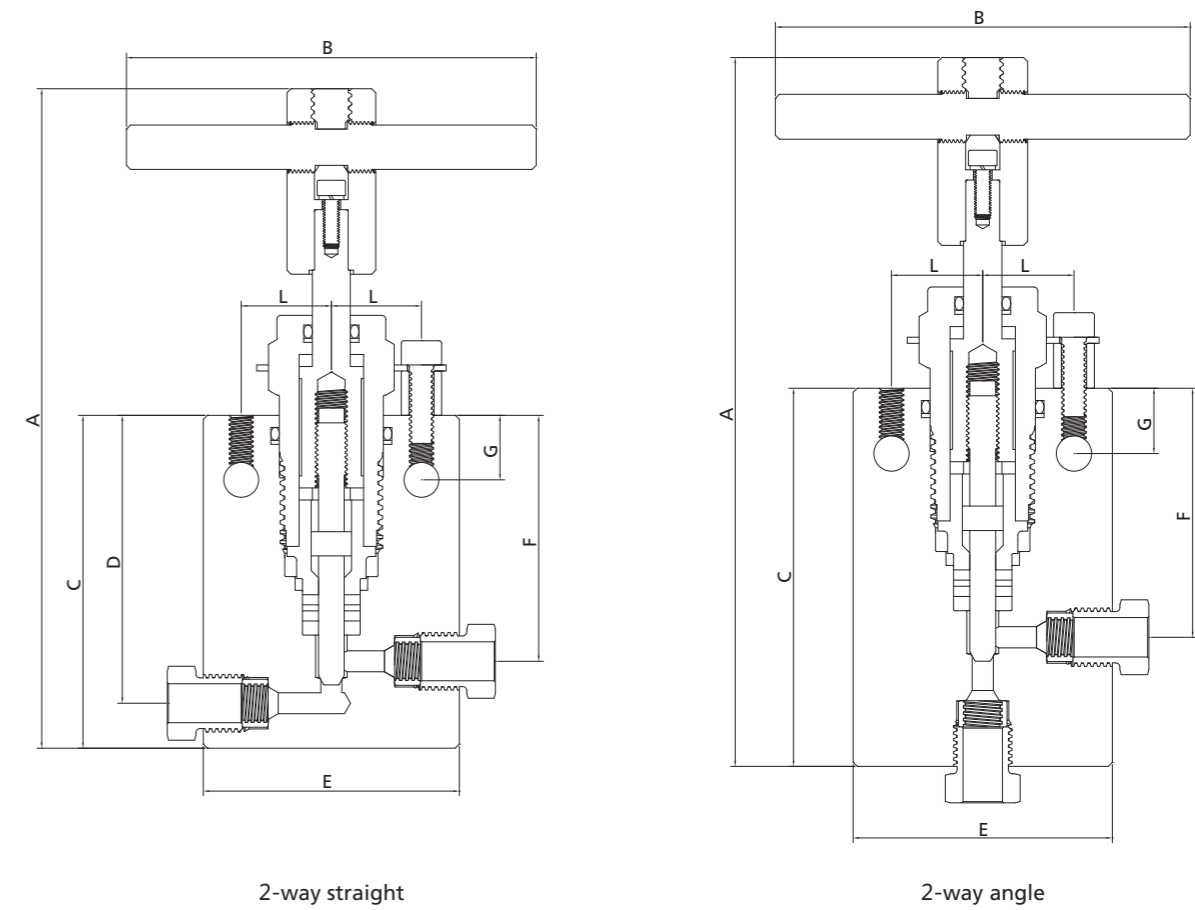
Standard Materials of Construction



Item	Component	Material
1	Handle	SS
2	Handle Screw	SS
3	Upper Stem	316 SS/A479
4	Packing Gland	316 SS/A479
5	O-ring	NBR
6	Lower Stem	Alloy 725
7	Packing Ring	C63000/B150
8	Packing	PTFE/RPTFE
9	Packing Washer	Alloy 725
10	Body	316 SS/A479
	Lubricant	Molybdenum disulfide

Note: Please contact the FITOK Group for more information on wetted materials (Exp: 2507 SD), seal materials and operational designs to fulfill your application requirements.

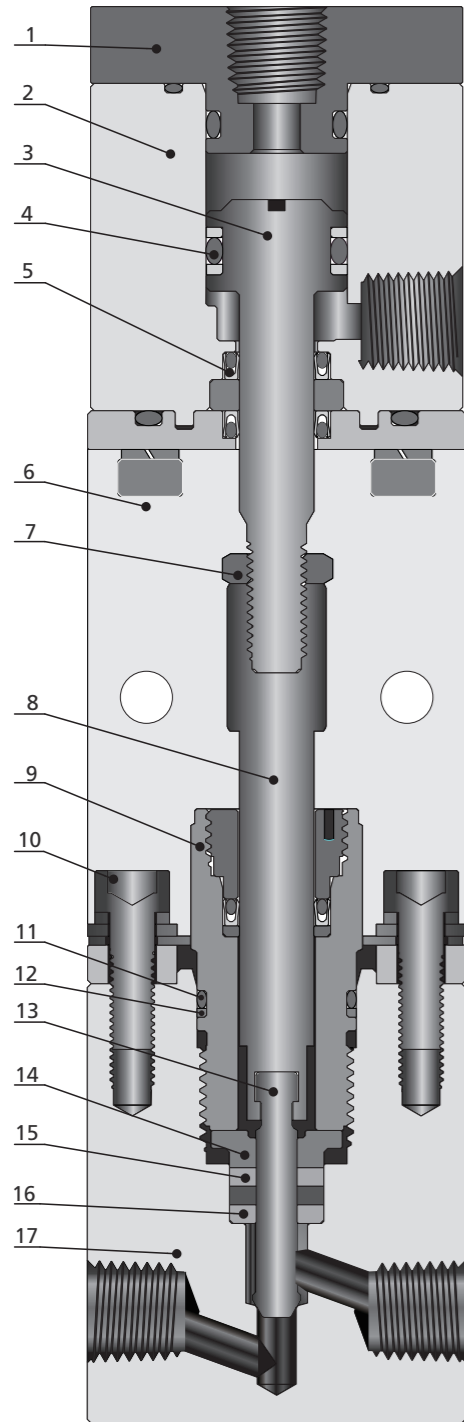
Dimensions



Ordering Number	Connection Type	A	B	C	D	E	F	G	L	Block Thickness
		in. (mm)								
20SNSS-2FH6-1	2FH6	6.15 (156.2)	4.00 (101.6)	3.25 (82.55)	2.75 (69.9)	2.50 (63.5)	2.44 (61.98)	0.75 (19.05)	0.94 (23.88)	1.50 (38.1)
20SNSS-2FH9-1	2FH9	6.15 (156.2)	4.00 (101.6)	3.25 (82.55)	2.75 (69.9)	2.50 (63.5)	2.44 (61.98)	0.75 (19.05)	0.94 (23.88)	1.50 (38.1)
20SNSS-2FH12-1	2FH12	7.22 (183.4)	10.25 (260.4)	4.12 (104.7)	3.44 (87.38)	3.00 (76.2)	2.94 (74.68)	0.75 (19.05)	0.94 (23.88)	1.50 (38.1)
20SNSS-2FH6-2	2FH6	6.65 (168.9)	4.00 (101.6)	3.75 (95.25)	—	2.50 (63.5)	2.44 (61.98)	0.75 (19.05)	0.94 (23.88)	1.50 (38.1)
20SNSS-2FH9-2	2FH9	6.65 (168.9)	4.00 (101.6)	3.75 (95.25)	—	2.50 (63.5)	2.44 (61.98)	0.75 (19.05)	0.94 (23.88)	1.50 (38.1)
20SNSS-2FH12-2	2FH12	7.72 (196.1)	10.25 (260.4)	4.62 (117.3)	—	3.00 (76.2)	2.94 (74.68)	0.75 (19.05)	0.94 (23.88)	1.50 (38.1)

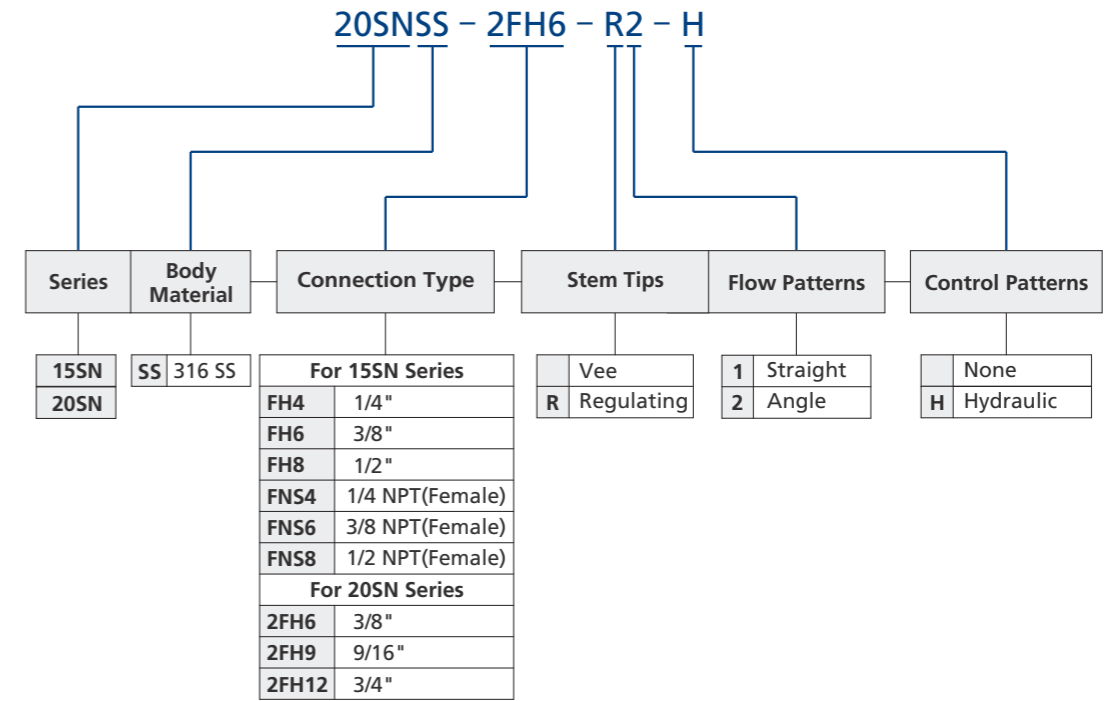
Standard Materials of Construction

Subsea Hydraulic Needle Valve



Item	Component	Material
1	Gland	316 SS/A479
2	Actuator Body	316 SS/A479
3	Piston Rod	316 SS/A479
4	O-ring	Fluorocarbon FKM
5	Piston Seal	UHMWPE
6	Support Block	316 SS/A479
7	Nut	Stainless Steel
8	Upper Stem	316 SS/A479
9	Packing Gland	316 SS/A479
10	Locking Screw	SS
11	O-ring	HNBR
12	O-ring Retainer	PTFE
13	Lower Stem	S17400/A564
14	Packing Ring	C63000/B150
15	Packing	PTFE
16	Packing Washer	S17400/A564
17	Body	316 SS/A479

Part Number Description



Note: Most configurations are available but not everyone.