

Subsea Valves



Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

Contents

Fittings and Tubing	Subsea Ball Valves	G-04
Adapters and Couplings	Subsea Hydraulic Ball Valves	G-11
Quick Couplings	Subsea Check Valves	G-13
Valves	Subsea Needle Valves	G-17
Line Filters	Subsea Hydraulic Needle Valves	G-20
Sour Service Products	Subsea Hydraulic Directional Control Valves	G-23
Subsea Valves		
Tools and Installation Instructions		
Technical Information		

Subsea Ball Valves

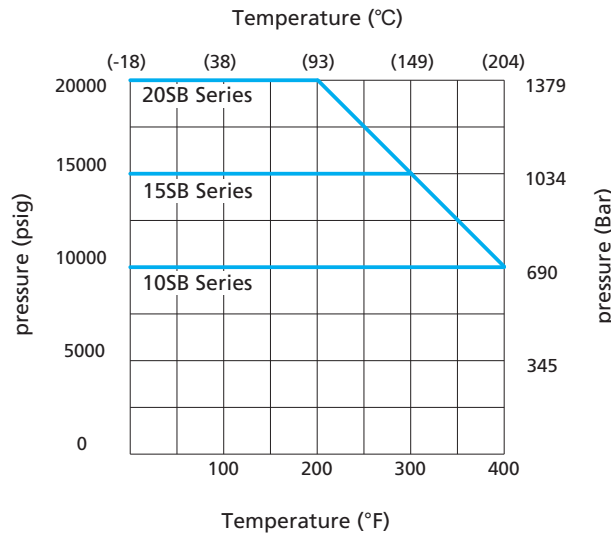
2-way Valves, 3-way Valves

Features

- ⦿ Allowable working pressure up to 20,000 psig (1379 bar)
- ⦿ Maximum external pressure: 6,000 psig (414 bar)
- ⦿ NBR O-ring for operation from 0°F to 250°F (-17.8°C to 121°C), other O-ring materials available
- ⦿ High tensile 316 stainless steel as standard material for valve body
- ⦿ Available to NACE MR0175
- ⦿ Rapid quarter turn action to provide quick open/close action for easy ROV or diver operation
- ⦿ PEEK seats to offer excellent resistance against chemicals, heat and abrasion
- ⦿ Full-port flow path to minimize pressure drop
- ⦿ Wide selection of tube and pipe end fittings available
- ⦿ A variety of wetted materials optional
- ⦿ Maximum water depth: 13,800 ft. (4200 m)



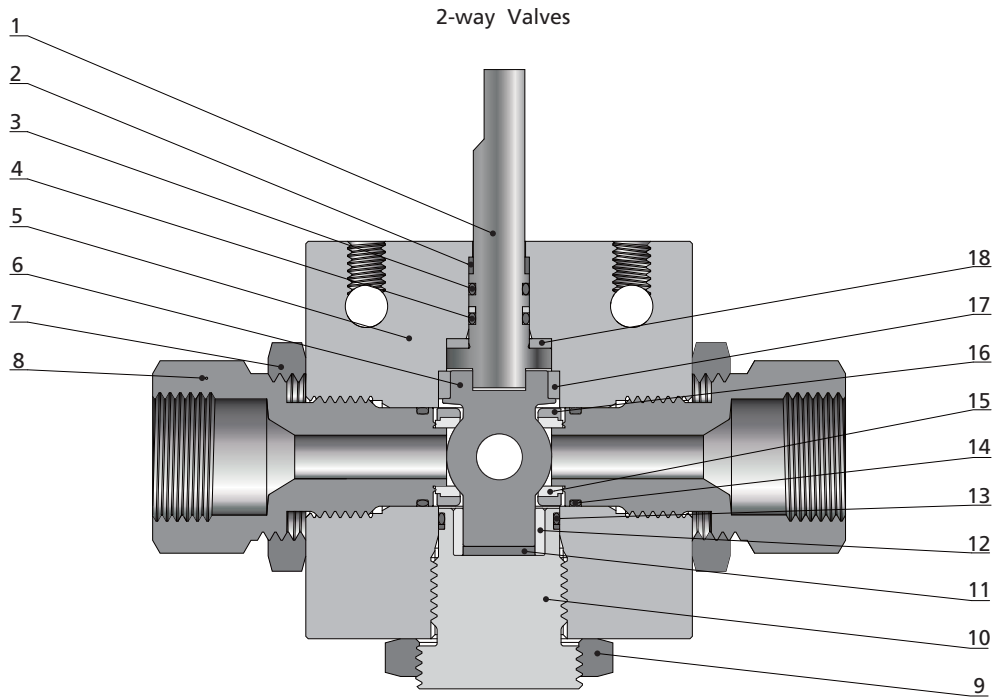
Pressure vs. Temperature Curve



NOTE: The side port can not be used as inlet port for 3-way valves.

Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Surf Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

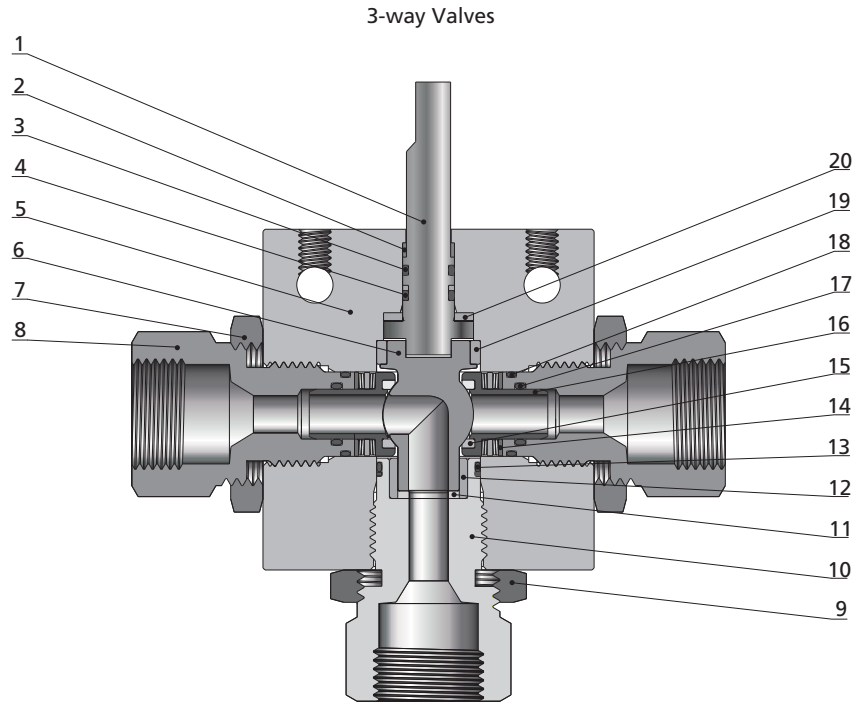
Standard Materials of Construction



Item	Component	Material Grade
1	<i>Ball Stem</i>	316 SS
2	Stem Backup	PEEK
3	O-Ring	NBR
4	<i>O-Ring</i>	NBR
5	<i>Body</i>	316 SS
6	<i>Ball</i>	316 SS
7	Lock Nut	316 SS
8	<i>Seat Gland</i>	316 SS
9	Locking Piece	316 SS
10	<i>Bottom Gland</i>	316 SS
11	<i>Bottom Thrust washer</i>	PEEK
12	<i>Bearing</i>	PEEK
13	<i>O-Ring</i>	NBR
14	<i>O-Ring</i>	NBR
15	<i>Seat</i>	PEEK
16	<i>Seat Retainer</i>	316 SS
17	<i>Bearing</i>	PEEK
18	<i>Thrust Washer</i>	PEEK
	Lubricant	Molybdenum Disulfide/Fluorinated-based

Wetted components listed in italics.

Fittings and Tubing
 Adapters and Couplings
 Quick Couplings
 Valves
 Line Filters
 Sour Service Products
 Subsea Valves
 Tools and Installation Instructions
 Technical Information

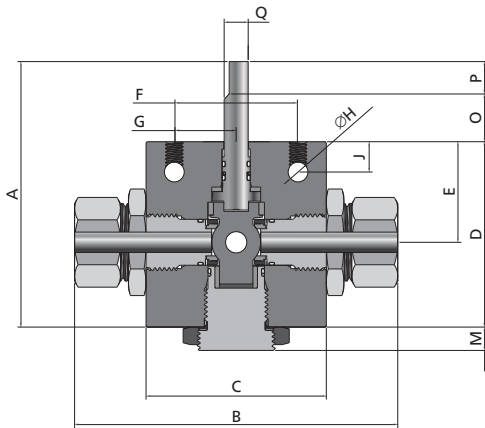


Item	Component	Material Grade
1	<i>Ball Stem</i>	316 SS
2	Stem Backup	PEEK
3	O-Ring	NBR
4	<i>O-Ring</i>	<i>NBR</i>
5	Body	316 SS
6	Ball	316 SS
7	Lock Nut	316 SS
8	Seat Gland	316 SS
9	Locking Piece	316 SS
10	<i>Bottom Gland</i>	316 SS
11	<i>Bottom Thrust washer</i>	PEEK
12	<i>Bearing</i>	PEEK
13	O-Ring	NBR
14	<i>Belleville Washer</i>	S17700
15	Seat	PEEK
16	<i>Seat Retainer</i>	S17700
17	O-Ring	NBR
18	O-Ring	NBR
19	Bearing	PEEK
20	<i>Thrust Washer</i>	PEEK
	Lubricant	Molybdenum Disulfide/Fluorinated-based

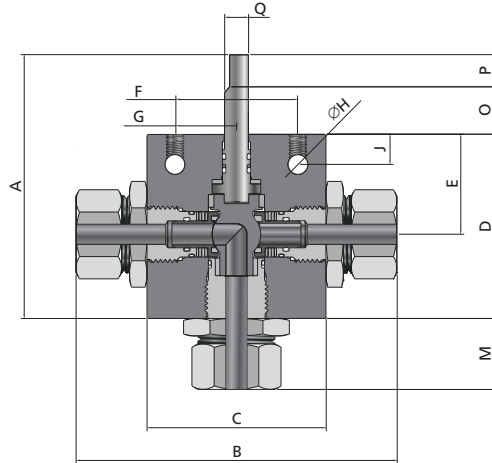
Wetted components listed in italics.

Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

Dimensions



2-way Valves

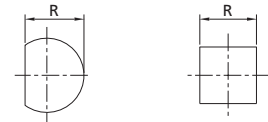


3-way Valves

Flow Pattern	Orifice No.	Dimensions, in. (mm)										
		A	B	C	D	E	F	G	H	J	M	Block Thickness
2-way	4	4.31 (109.3)	4.20 (106.8)	2 (50.8)	2.53 (64.2)	1.28 (32.5)	1.5 (38.1)	0.75 (19.05)	0.28 (7.1)	0.43 (10.9)	0.35 (8.8)	1 (25.4)
	6	5.94 (150.8)	5.53 (140.4)	3 (76.2)	3.43 (87.3)	1.78 (45.2)	2.5 (63.5)	1.25 (31.75)	0.31 (7.9)	0.41 (10.3)	0.35 (8.8)	1.38 (34.9)
	8	6.67 (169.5)	7.72 (196.2)	4.12 (104.6)	4.23 (107.5)	2.07 (52.4)	3 (76.2)	1.5 (38.1)	0.31 (7.9)	0.5 (12.7)	0.61 (15.5)	1.75 (44.5)
3-way	4	4.34 (110.2)	4.70 (119.5)	2.5 (63.5)	2.56 (65)	1.34 (34)	2 (50.8)	1 (25.4)	0.28 (7.1)	0.41 (10.3)	1.1 (28)	1 (25.4)

Flow Pattern	Orifice No.	Dimensions, in. (mm)			
		O	P	Q	R
2-way	4	1.278 (32.5)	0.5 (12.7)	0.25 (6.35)	0.22 (5.48)
	6	1.24 (31.7)	1.25 (31.8)	0.44 (11.1)	0.38 (9.35)
	8	1.56 (39.7)	0.88 (22.2)	0.62 (15.9)	0.44 (11.13)
3-way	4	1.28 (32.5)	0.5 (12.7)	0.25 (6.35)	0.22 (5.49)

Ball stem connection



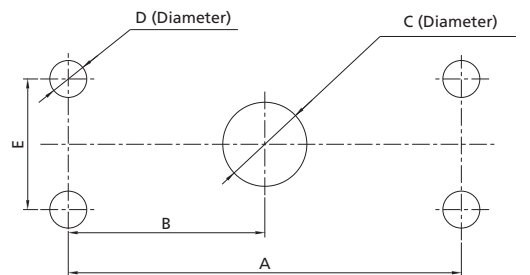
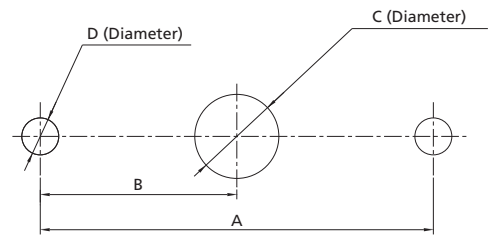
Orifice 4

Orifice 6/8

Ball Valve Panel Mounting Dimensions

Flow Pattern	Orifice No.	Dimensions, in. (mm)			
		A	B	C	D
2-way	4	1.5 (38.1)	0.75 (19.05)	0.31 (7.9)	0.28 (7.1)
3-way	4	2 (50.8)	1 (25.4)	0.31 (7.9)	0.28 (7.1)

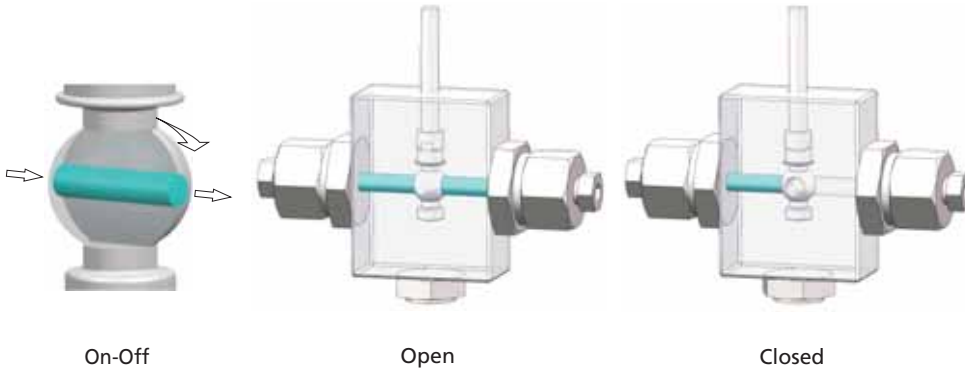
Flow Pattern	Orifice No.	Dimensions, in. (mm)				
		A	B	C	D	E
2-way	6	2.5 (63.5)	1.25 (31.75)	0.5 (12.7)	0.33 (8.5)	0.88 (22.3)
	8	3 (76.2)	1.5 (38.1)	0.69 (17.5)	0.33 (8.5)	1 (25.4)



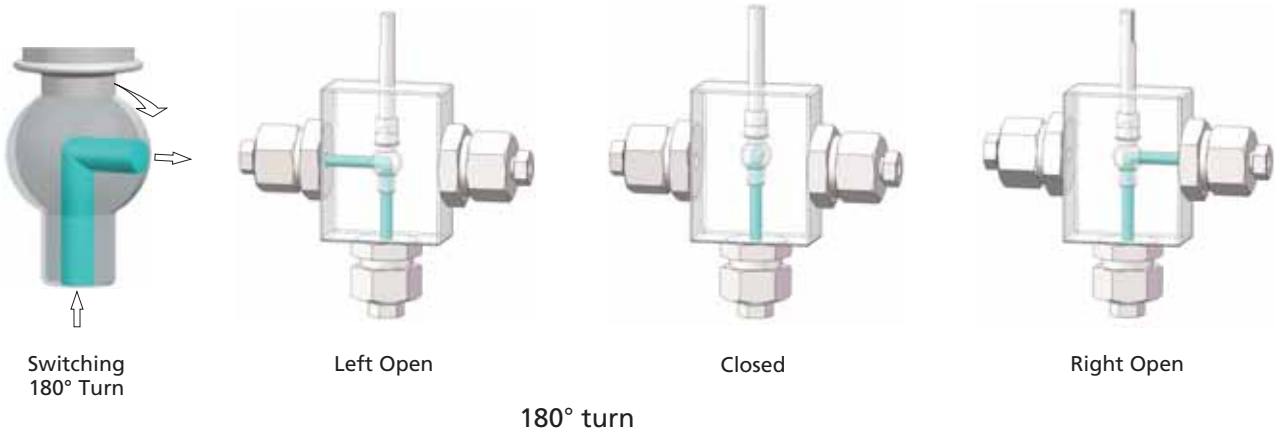
All dimensions are for reference only and are subject to change.

Flow Configuration

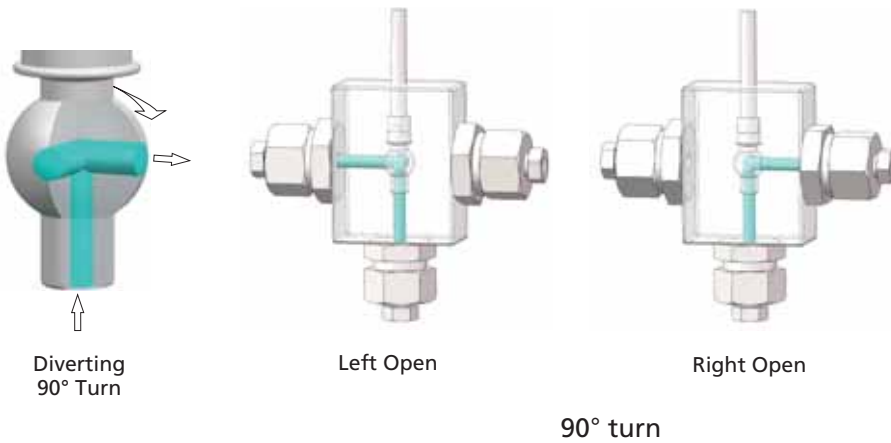
2-way Valves



3-way Valves



180° turn



90° turn

Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

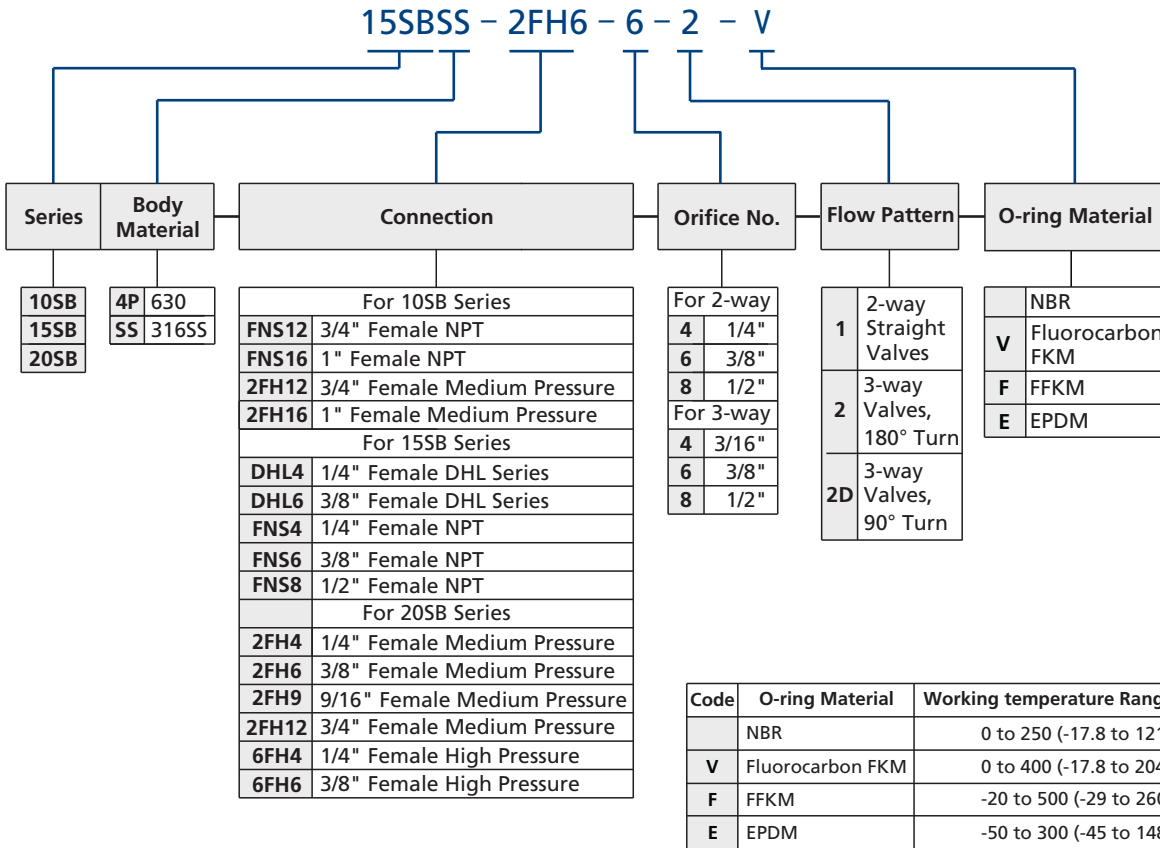
Ordering Information and Dimensions

	Ordering Number	Flow Pattern	Connection	Orifice No.	Orifice size in. (mm)	Cv	Allowable Working Pressure psig (bar)
Fittings and Tubing	10SBSS-2FH12-8-1	2-way	2FH12	8	0.5 (12.7)	10.2	10,000 (690)
	10SBSS-2FH16-8-1		2FH16		0.5 (12.7)	10.2	
	10SBSS-FNS12-8-1		FNS12		0.5 (12.7)	10.2	
	10SBSS-FNS16-8-1		FNS16		0.5 (12.7)	10.2	
Adapters and Couplings	15SBSS-DHL4-4-1	2-way	DHL4	4	0.128 (3.25)	0.26	15,000 (1034)
	15SBSS-DHL6-4-1		DHL6		0.25 (6.35)	1.51	
	15SBSS-FNS4-4-1		FNS4		0.25 (6.35)	1.51	
Quick Couplings	15SBSS-FNS6-4-1	2-way	FNS6	6	0.25 (6.35)	1.51	
	15SBSS-FNS8-4-1		FNS8		0.25 (6.35)	1.51	
	15SBSS-FNS4-6-1		FNS4		0.375 (9.52)	3.51	
	15SBSS-FNS6-6-1		FNS6		0.375 (9.52)	3.51	
Valves	15SBSS-FNS8-6-1	2-way	FNS8	4	0.375 (9.52)	3.51	
	15SBSS-FNS4-4-2		FNS4		0.188 (4.77)	0.5	
	15SBSS-FNS4-4-2D		FNS4		0.188 (4.77)	0.5	
Line Filters	15SBSS-FNS6-4-2	3-way	FNS6	4	0.188 (4.77)	0.5	
	15SBSS-FNS6-4-2D		FNS6		0.188 (4.77)	0.5	
Sour Service Products	20SBSS-2FH4-4-1	2-way	2FH4	4	0.109 (2.77)	0.36	20,000 (1379)
	20SBSS-2FH6-4-1		2FH6		0.203 (5.16)	1.23	
Subsea Valves	20SBSS-2FH9-4-1	2-way	2FH9	6	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	
Tools and Installation Instructions	20SBSS-2FH6-6-1	3-way	2FH6	4	0.203 (5.16)	1.23	
	20SBSS-2FH9-6-1		2FH9		0.312 (7.92)	2.93	
	20SBSS-2FH12-6-1		2FH12		0.375 (9.52)	3.51	
	20SBSS-2FH4-4-2		2FH4		0.109 (2.39)	0.17	
Technical Information	20SBSS-2FH4-4-2D						

Ordering Information and Dimensions (continue)

Ordering Number	Flow Pattern	Connection	Orifice No.	Orifice size in. (mm)	Cv	Allowable Working Pressure psig (bar)
20SBSS-2FH6-4-2	3-way	2FH6	4	0.188 (4.77)	0.5	20,000 (1379)
20SBSS-2FH6-4-2D						
20SBSS-2FH9-4-2		2FH9		0.188 (4.77)	0.5	
20SBSS-2FH9-4-2D						
20SBSS-6FH4-4-2		6FH4		0.094 (2.39)	0.13	
20SBSS-6FH4-4-2D						
20SBSS-6FH6-4-2		6FH6		0.125 (3.17)	0.22	
20SBSS-6FH6-4-2D						

Ordering Number Description



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

Subsea Hydraulic Ball Valves

Features

- ⦿ Allowable working pressure up to 20,000 psig (1379 bar)
- ⦿ Maximum external pressure: 6,000 psig (414 bar)
- ⦿ Maximum drive pressure: 3,000 psig (207 bar)
- ⦿ Hydraulic actuated working temperature: 0°F to 200°F(-18°C to 93°C)
- ⦿ High tensile 316 stainless steel for valve body and 17-4 PH for hydraulic actuator
- ⦿ Gear shaft and rack in the transmission mechanism with special heat treatment and surface hardening to ensure excellent abrasive resistance and long cycle life
- ⦿ Fluorocarbon FKM O-ring and PEEK seal to provide excellent resistance against chemicals, heat and abrasion
- ⦿ Three types of hydraulic actuators (HTO, HTC, DH) available
- ⦿ Maximum water depth: 13,800 ft. (4200 m)

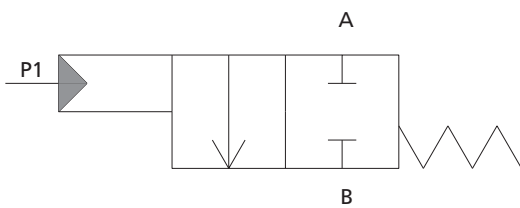


Subsea Hydraulic Ball Valves (2-way)

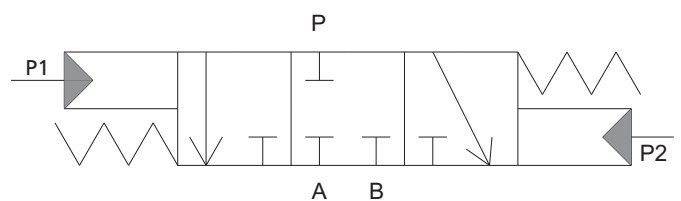


Subsea Hydraulic Ball Valves (3-way)

Schematic Diagram:



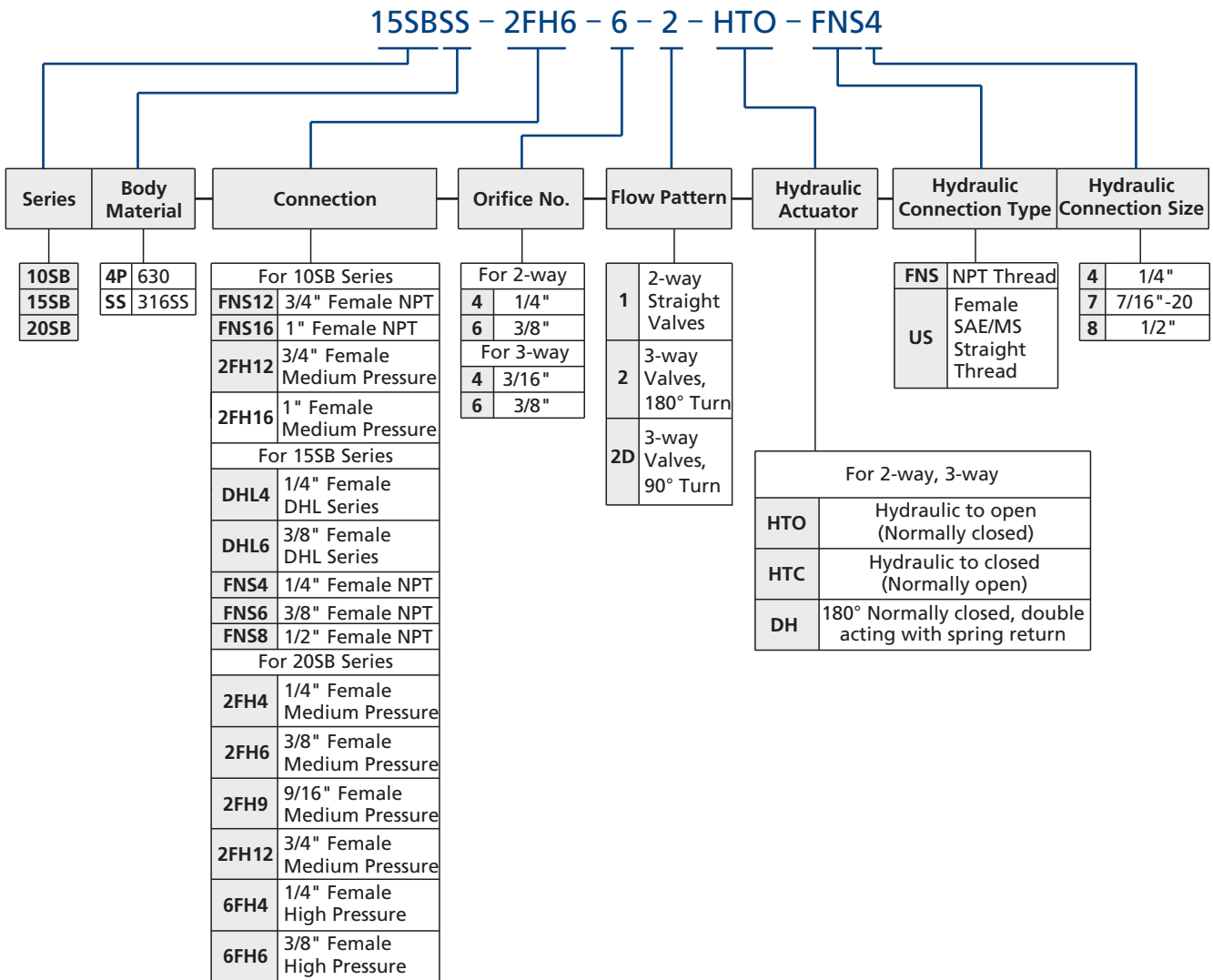
2-way (HTO)



3-way (DH)

- ⦿ HTO: Hydraulic to open, single acting with spring return (Normally Closed)
- ⦿ HTC: Hydraulic to close, single acting with spring return (Normally Open)
- ⦿ DH: Double acting with spring return

Ordering Number Description



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

Technical Information
Tools and Installation Instructions
Subsea Valves
Sour Service Products
Line Filters
Valves
Quick Couplings
Adapters and Couplings
Fittings and Tubing

Subsea Check Valves

Features

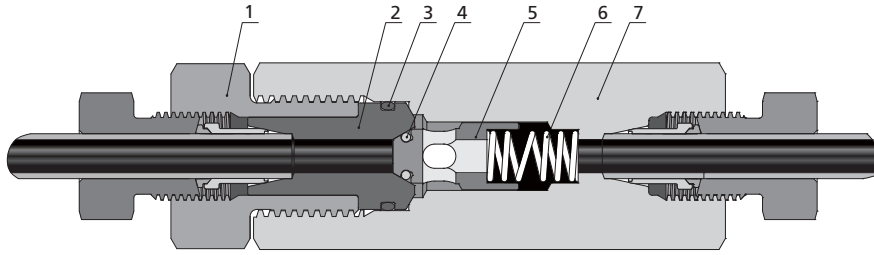
- ⦿ Allowable working pressure up to 20,000 psig (1379 bar)
- ⦿ Maximum external pressure: 6,000 psig (414 bar)
- ⦿ Cracking pressure: 14 psig~26 psig (0.966 bar~1.794 bar)
- ⦿ NBR O-ring for operation from 0°F to 250°F (-17.8°C to 121°C), other O-ring materials available
- ⦿ High tensile 316 stainless steel for valve body
- ⦿ Available to NACE MR0175
- ⦿ Provides unidirectional flow and tight shut-off for liquids and gases 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
- ⦿ Maximum water depth: 13,800 ft. (4200 m)



Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

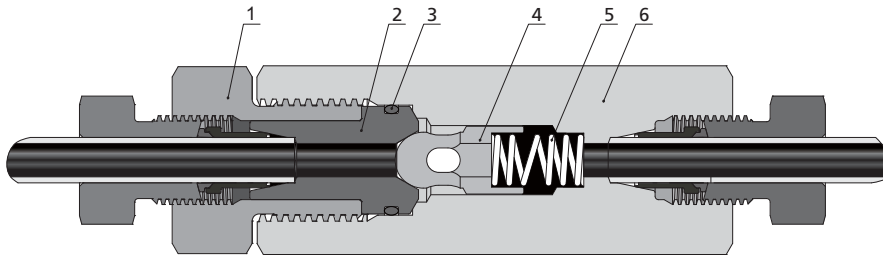
Standard Materials of Construction

SC Series



Item	Component	Material Grade
1	Cover Gland	316SS
2	Cover	316SS
3	Seal Ring	NBR
4	Seal Ring	NBR
5	Ball Poppet	316SS
6	Spring	304SS
7	Valve Body	316SS

SCO Series



Item	Component	Material Grade
1	Cover Gland	316SS
2	Cover	316SS
3	Seal Ring	NBR
4	Ball Poppet	316SS
5	Spring	304SS
6	Valve Body	316SS

Wetted components listed in italics.

Fittings and Tubing

Adapters and Couplings

Quick Couplings

Valves

Line Filters

Sour Service Products

Subsea Valves

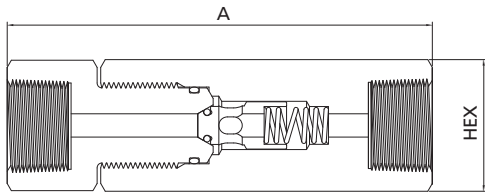
Tools and Installation Instructions

Technical Information

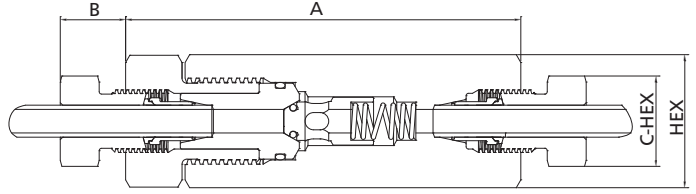
Ordering Information and Dimensions

Fittings and Tubing
 Adapters and Couplings
 Quick Couplings
 Valves
 Line Filters
 Sour Service Products
 Subsea Valves
 Tools and Installation
 Technical Information

FNS



DHL/2FH



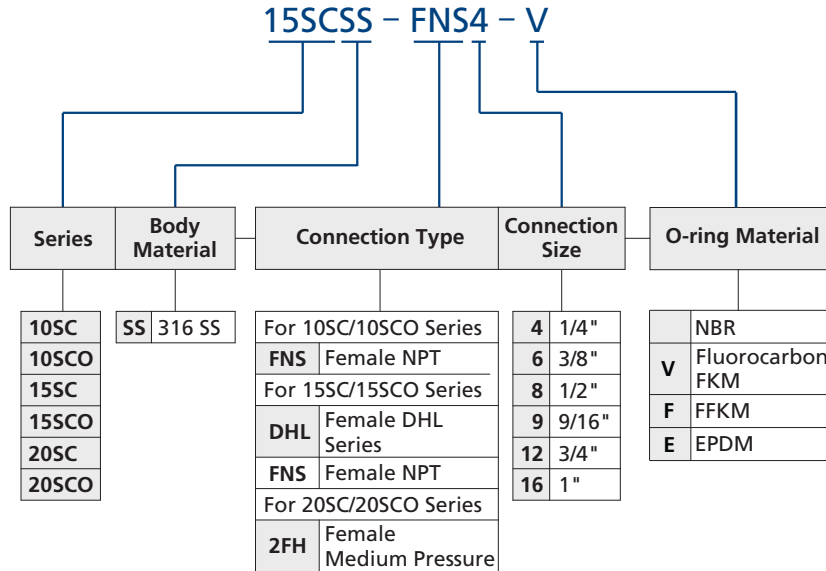
Ordering Number	Connection	Orifice Size in. (mm)	Cv	Dimensions, in. (mm)				Allowable Working Pressure psig (bar)
				A	B	C-HEX	HEX	
10SCSS-FNS12	FNS12	0.52 (13.21)	4.70	6.29 (159.77)	—	—	1.75 (44.45)	10,000 (690)
10SCSS-FNS16	FNS16	0.69 (17.53)	7.40	7.33 (186.18)	—	—	1.88 (47.75)	
10SCOSS-FNS12	FNS12	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-DHL4	DHL4	0.188 (4.78)	0.63	3.18 (80.77)	0.53 (13.56)	0.63 (16.00)	0.81 (20.57)	15,000 (1034)
15SCSS-DHL6	DHL6	0.250 (6.35)	1.70	3.56 (90.42)	0.53 (13.56)	0.75 (19.05)	1.00 (25.40)	
15SCSS-DHL8	DHL8	0.375 (9.53)	3.40	4.18 (106.17)	0.6 (15.19)	0.93 (23.62)	1.38 (35.05)	
15SCOSS-DHL4	DHL4	0.188 (4.78)	0.63	3.18 (80.77)	0.53 (13.56)	0.63 (16.00)	0.81 (20.57)	
15SCOSS-DHL6	DHL6	0.250 (6.35)	1.70	3.56 (90.42)	0.53 (13.56)	0.75 (19.05)	1.00 (25.40)	
15SCOSS-DHL8	DHL8	0.375 (9.53)	3.40	4.18 (106.17)	0.6 (15.19)	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 (1379)
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)	
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)	20,000 (1379)
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)	

Ordering Information and Dimensions (continue)

Ordering Number	Connection	Orifice Size in. (mm)	Cv	Dimensions, in. (mm)				Allowable Working Pressure psig (bar)
				A	B	C-HEX	HEX	
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 (1379)
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)	

NOTE: Dimensions are for reference only and are subject to change.

Ordering Number Description



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

- NOTES: 1. "Ordering Number Description" is a reference to understand the combination rules of FITOK product part number. Not all combinations are available.
 2. Please contact FITOK Group or our authorized distributors for more information on wetted materials (Eg: 2507 SD), seal materials and operational designs to fulfill your application requirements.

Fittings and Tubing
 Adapters and Couplings
 Quick Couplings
 Valves
 Line Filters
 Sour Service Products
 Subsea Valves
 Tools and Installation Instructions
 Technical Information

Subsea Needle Valves

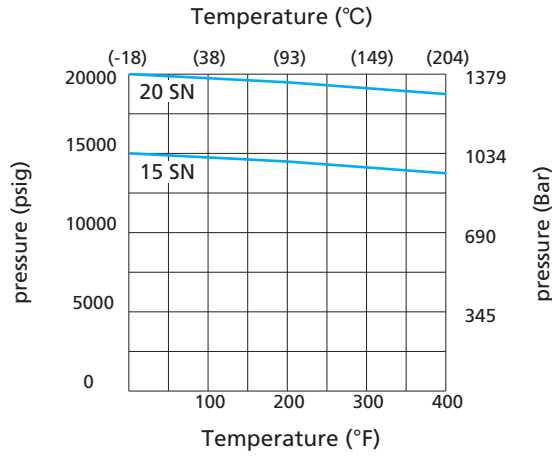
Features

- Allowable working pressure up to 20,000 psig (1379 bar)
- Maximum external pressure: 6,000 psig (414 bar)
- NBR O-ring for operation from 0°F to 250°F (-17.8°C to 121°C), other O-ring materials available
- High tensile 316 stainless steel for valve body
- Standard stem seal material: PTFE
- Available to NACE MR0175
- Using a two-part spindle assembly with a non-rising upper stem, it is of great advantage when being used with ROVs
- Non-rotating lower stem to ensure positive non-galling operation during shut-off
- Packing located under stem threads
- 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
- Orifice size: 0.203"
- Rated Cv: 0.75
- Maximum water depth: 13,800 ft. (4200 m)

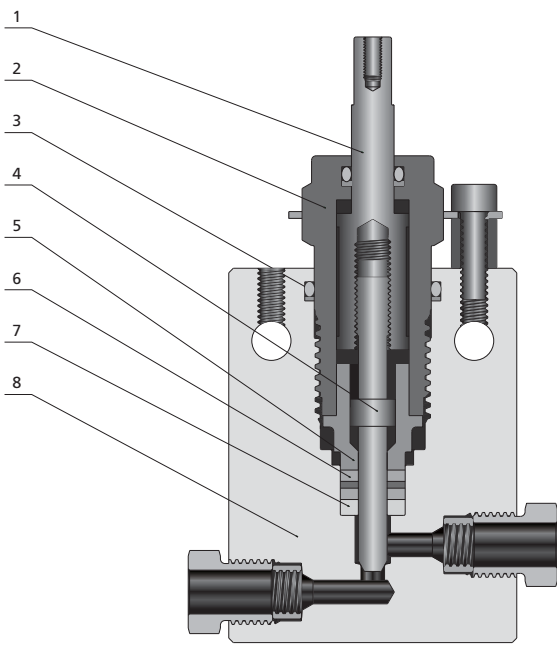


Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation
Technical Information

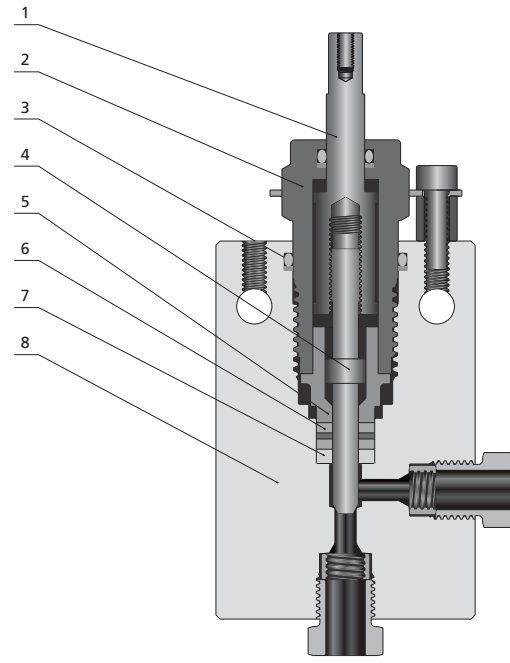
Pressure vs. Temperature Curve



Standard Materials of Construction



2-way straight



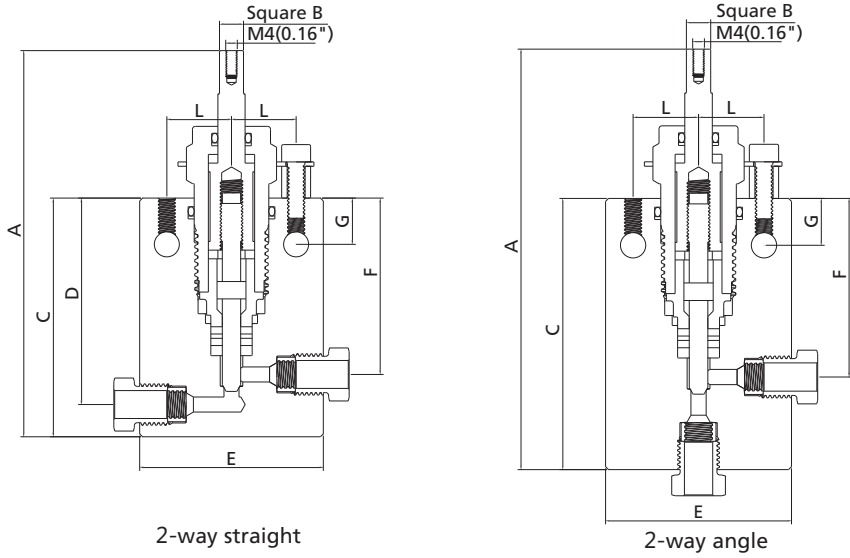
2-way angle

Item	Component	Material Grade
1	Upper Stem	316SS
2	Packing Gland	316SS
3	O-Ring	NBR
4	<i>Lower Stem</i>	<i>S17400</i>
5	Packing Ring	C63000
6	<i>Packing</i>	<i>PTFE</i>
7	<i>Packing washer</i>	<i>S17400</i>
8	<i>Body</i>	<i>316 SS</i>
	Lubricant	Molybdenum disulfide

Wetted components listed in italics.

Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

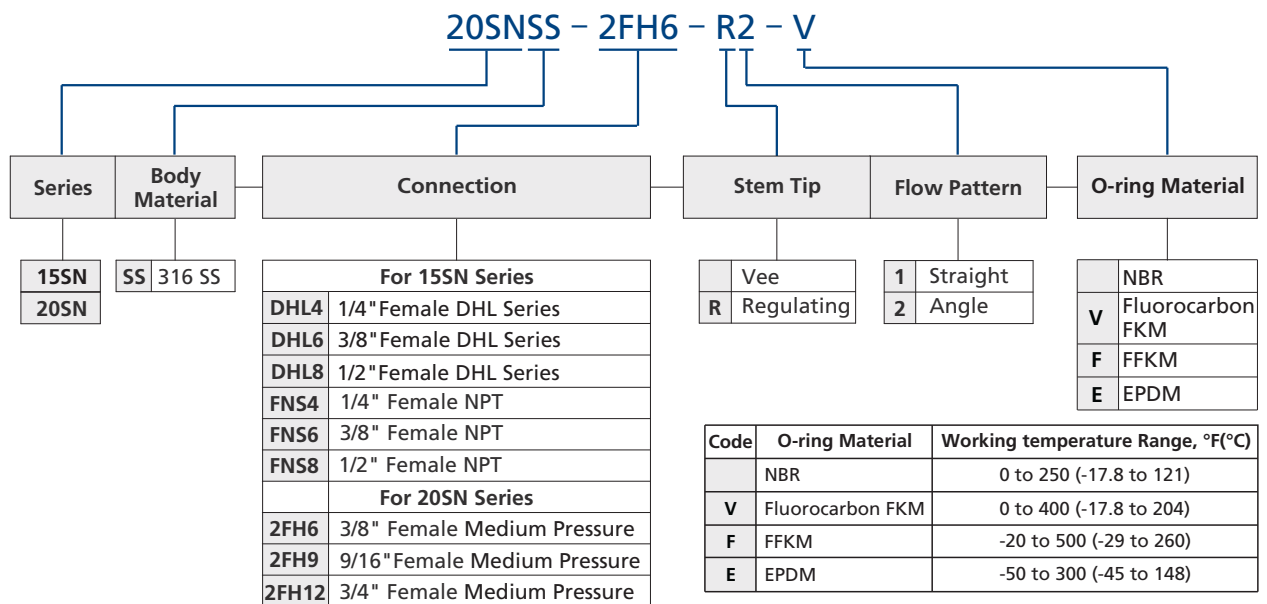
Ordering Information and Dimensions



Ordering Number	Connection	Dimensions, in. (mm)								
		A	B	C	D	E	F	G	L	Block Thickness
20SNSS-2FH6-1	2FH6	5.35 (135.9)	0.24 (6.0)	2.60 (66.00)	2.22 (56.4)	2.00 (50.8)	1.79 (45.40)	0.38 (9.65)	0.77 (19.5)	1.00 (25.4)
20SNSS-2FH9-1	2FH9	5.83 (148.1)	0.24 (6.0)	3.25 (82.55)	2.75 (69.9)	2.50 (63.5)	2.44 (61.98)	0.38 (9.65)	0.77 (19.5)	1.50 (38.1)
20SNSS-2FH12-1	2FH12	6.90 (175.3)	0.24 (6.0)	4.12 (104.7)	3.44 (87.38)	3.00 (76.2)	2.94 (74.68)	0.38 (9.65)	0.77 (19.5)	1.50 (38.1)
20SNSS-2FH6-2	2FH6	5.78 (146.9)	0.24 (6.0)	3.03 (77.00)	—	2.00 (50.8)	1.78 (45.40)	0.38 (9.65)	0.77 (19.5)	1.00 (25.4)
20SNSS-2FH9-2	2FH9	6.33 (160.8)	0.24 (6.0)	3.75 (95.25)	—	2.50 (63.5)	2.44 (61.98)	0.38 (9.65)	0.77 (19.5)	1.50 (38.1)
20SNSS-2FH12-2	2FH12	7.40 (188.0)	0.24 (6.0)	4.62 (117.3)	—	3.00 (76.2)	2.94 (74.68)	0.38 (9.65)	0.77 (19.5)	1.50 (38.1)

NOTE: Dimensions are for reference only and are subject to change.

Ordering Number Description



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

Subsea Hydraulic Needle Valves

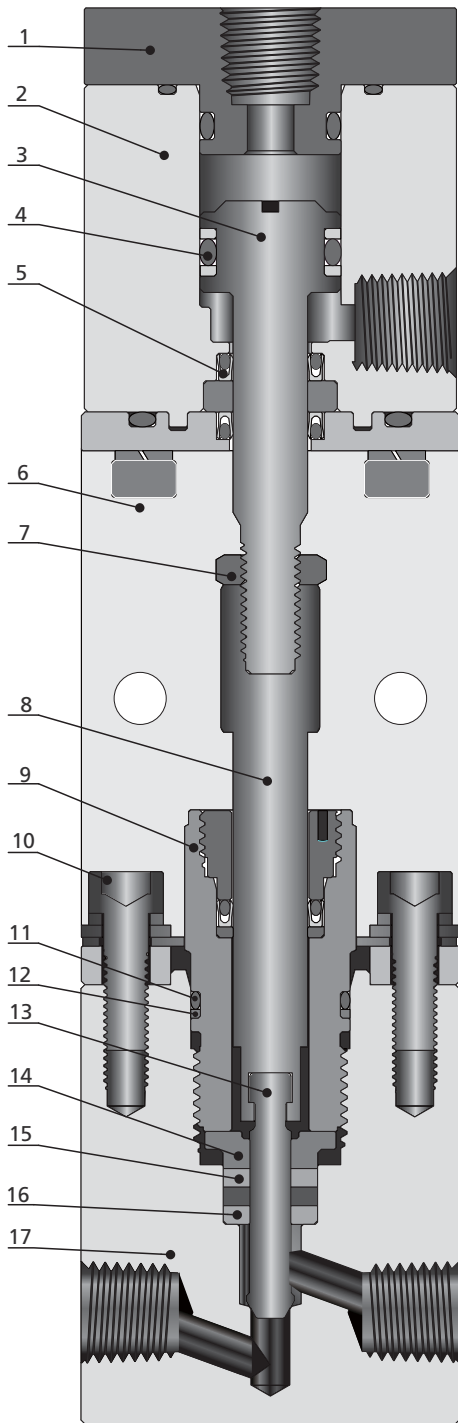
Features

- ⦿ Allowable working pressure up to 20,000 psig (1379 bar)
- ⦿ Maximum external pressure: 6,000 psig (414 bar)
- ⦿ Maximum drive pressure: 3,000 psig (207 bar)
- ⦿ Hydraulic actuated working temperature: 0°F to 175°F (-18°C to 80°C)
- ⦿ High tensile 316 stainless steel for valve body
- ⦿ Standard stem seal material: PTFE
- ⦿ Available to NACE MR0175
- ⦿ 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
- ⦿ Orifice: 0.203"
- ⦿ Rated Cv: 0.75
- ⦿ Maximum water depth: 13,800 ft. (4200 m)



Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

Standard Materials of Construction

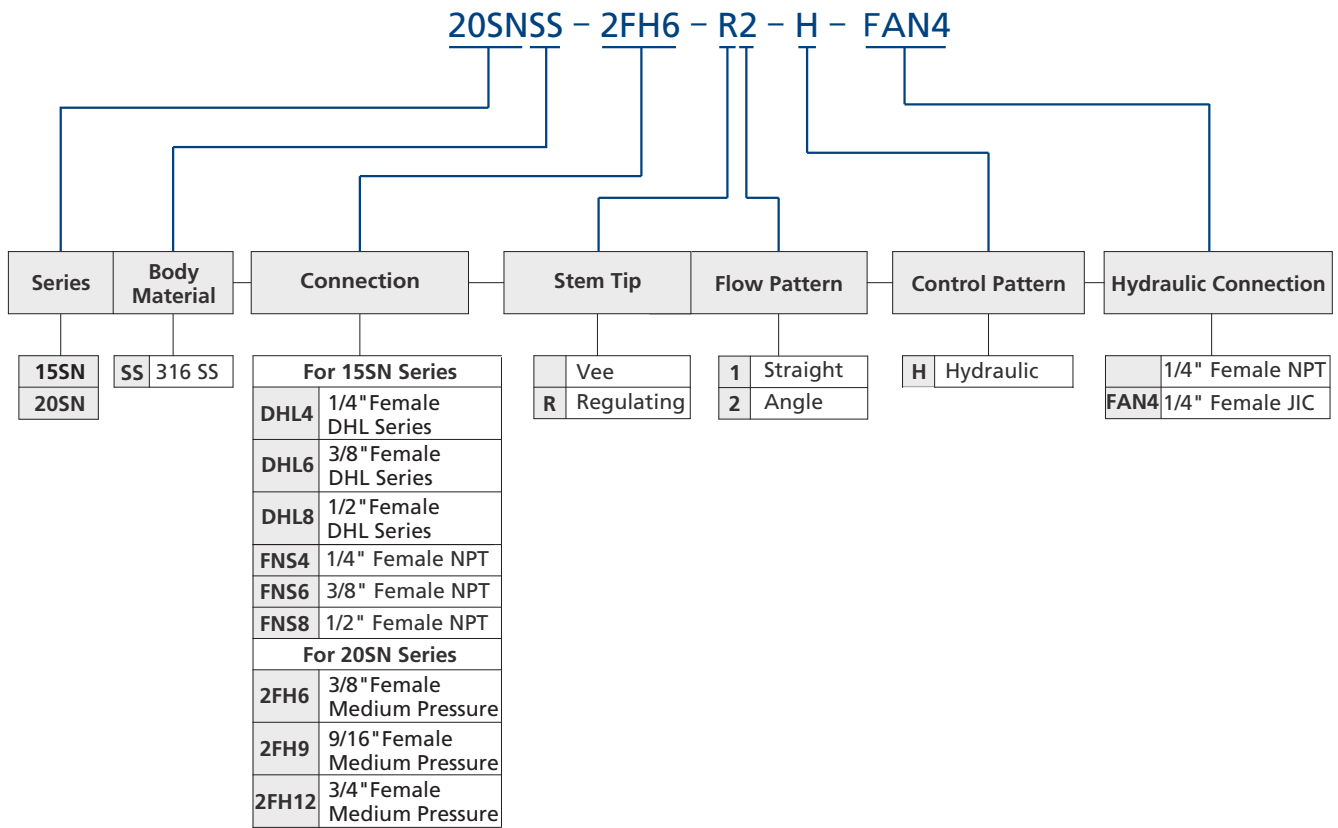


Item	Component	Material Grade
1	Gland	316 SS
2	Actuator Body	316 SS
3	Piston Rod	316 SS
4	O-Ring	Fluorocarbon FKM
5	Piston Seal	UHMWPE
6	Support Block	316 SS
7	Nut	Stainless Steel
8	Upper Stem	316 SS
9	Packing Gland	316 SS
10	Locking Screw	SS
11	O-Ring	NBR
12	O-Ring Retainer	PTFE
13	<i>Lower Stem</i>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

Wetted components listed in italics.

Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

Ordering Number Description



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

Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

Subsea Hydraulic Directional Control Valves

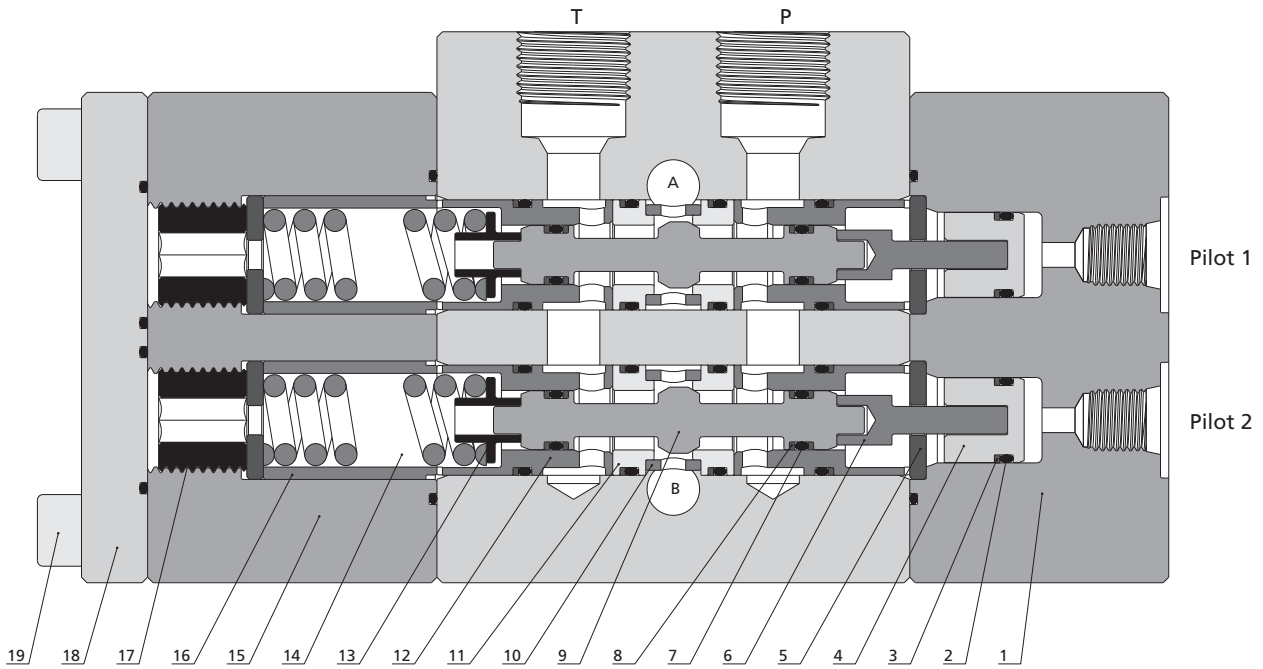
Features

- ⦿ Allowable working pressure up to 20,000 psig (1379 bar)
- ⦿ Pilot working pressure: 3,000 psig (207 bar)
- ⦿ Maximum external pressure: 6,000 psig (414 bar)
- ⦿ NBR O-ring for operation from 0°F to 250°F (-17.8°C to 121°C), other O-ring materials available
- ⦿ High tensile 316 stainless steel for valve body
- ⦿ NBR O-rings seal to provide excellent oil resistance
- ⦿ Easy to connect, switch off and reverse between different flow channels
- ⦿ Hydraulic remote control for easy operation
- ⦿ Bolt connection for easy disassembly and maintenance
- ⦿ Low impact performance to maximize cycle life
- ⦿ Suitable for application with oil or water
- ⦿ Orifice size: 0.25", 0.375"
- ⦿ Maximum water depth: 13,800 ft. (4200 m)

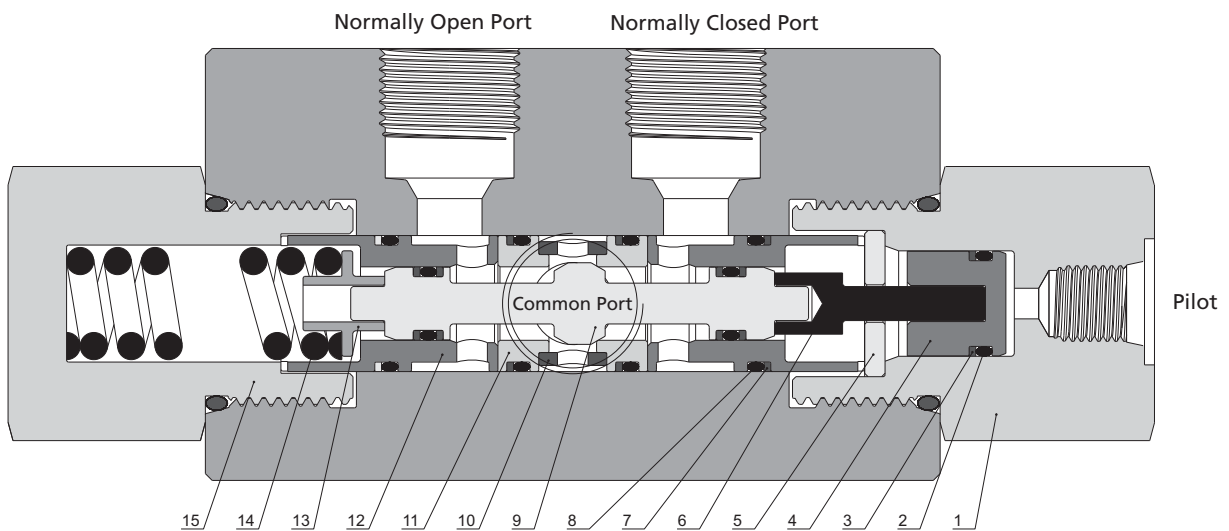
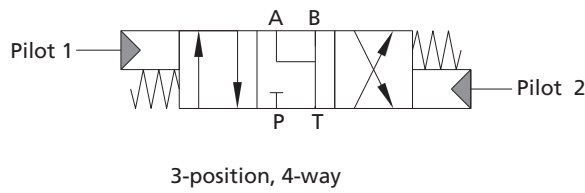


Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Sour Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

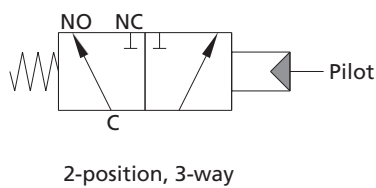
Standard Materials of Construction



Circuit Symbol



Circuit Symbol



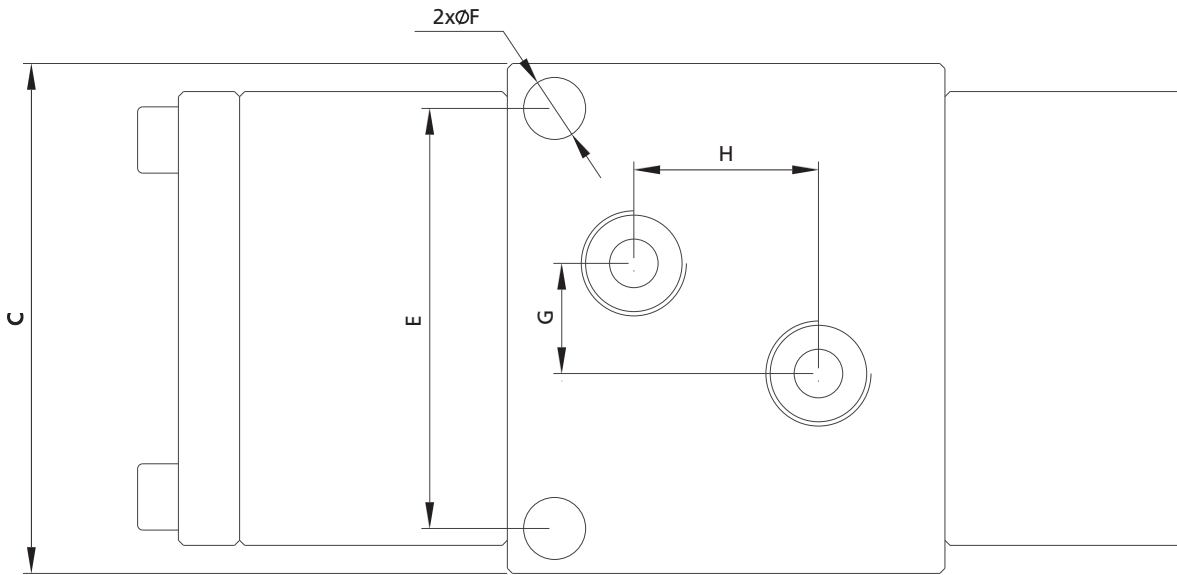
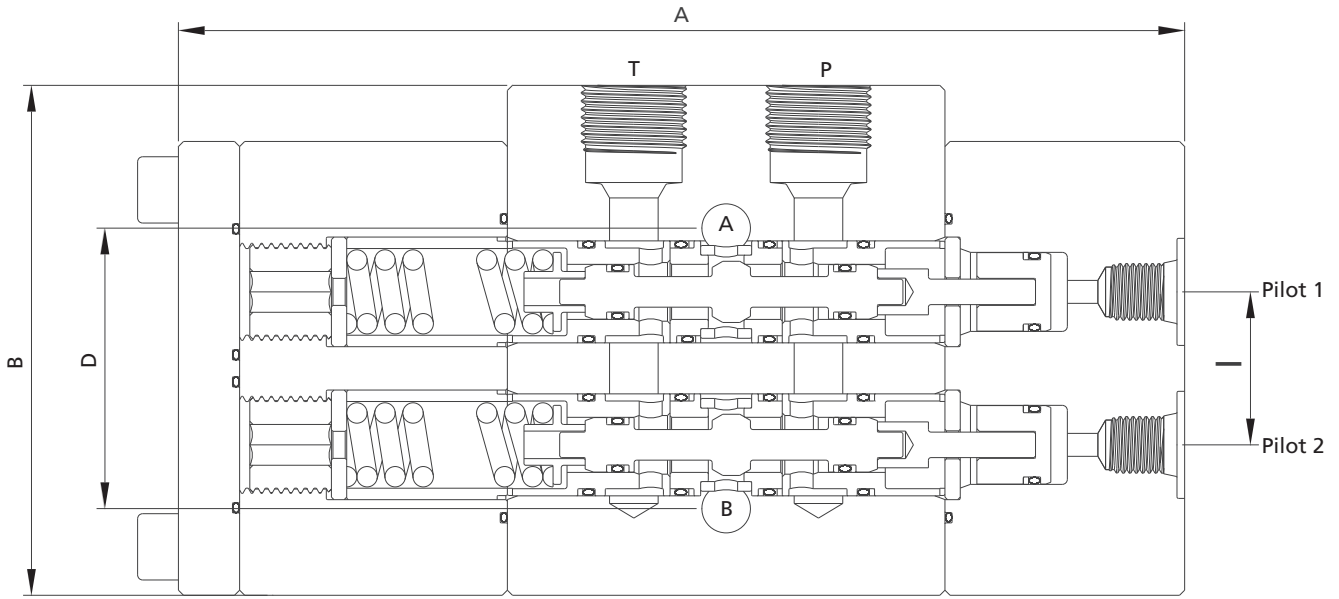
Fittings and Tubing
Adapters and Couplings
Quick Couplings
Valves
Line Filters
Seal Service Products
Subsea Valves
Tools and Installation Instructions
Technical Information

G-25 Subsea Valves

	Item	Component	Material Grade
Fittings and Tubing	1	Gland	F316
	2	O-Ring	NBR
Adapters and Couplings	3	Retaining Ring	PTFE
	4	Piston	316 SS
	5	Gasket	316 SS
	6	Connection Block	316 SS
	7	<i>O-Ring</i>	<i>NBR</i>
Quick Couplings	8	<i>Retaining Ring</i>	<i>PEEK</i>
	9	<i>Stem</i>	<i>S17400</i>
	10	<i>Pad</i>	<i>S17400</i>
	11	<i>Seat</i>	<i>316 SS</i>
	12	<i>Bush</i>	<i>S17400</i>
Valves	13	Connection Block	316 SS
	14	Spring	S17700
	15	Gland	F316
	16	Bush	S17400
Line Filters	17	Screw	316 SS
	18	Gland	F316
	19	Locking Screw	316 SS
Sour Service Products			
Subsea Valves			
Tools and Installation Instructions			
Technical Information			

Wetted components listed in italics.

Ordering Information and Dimensions

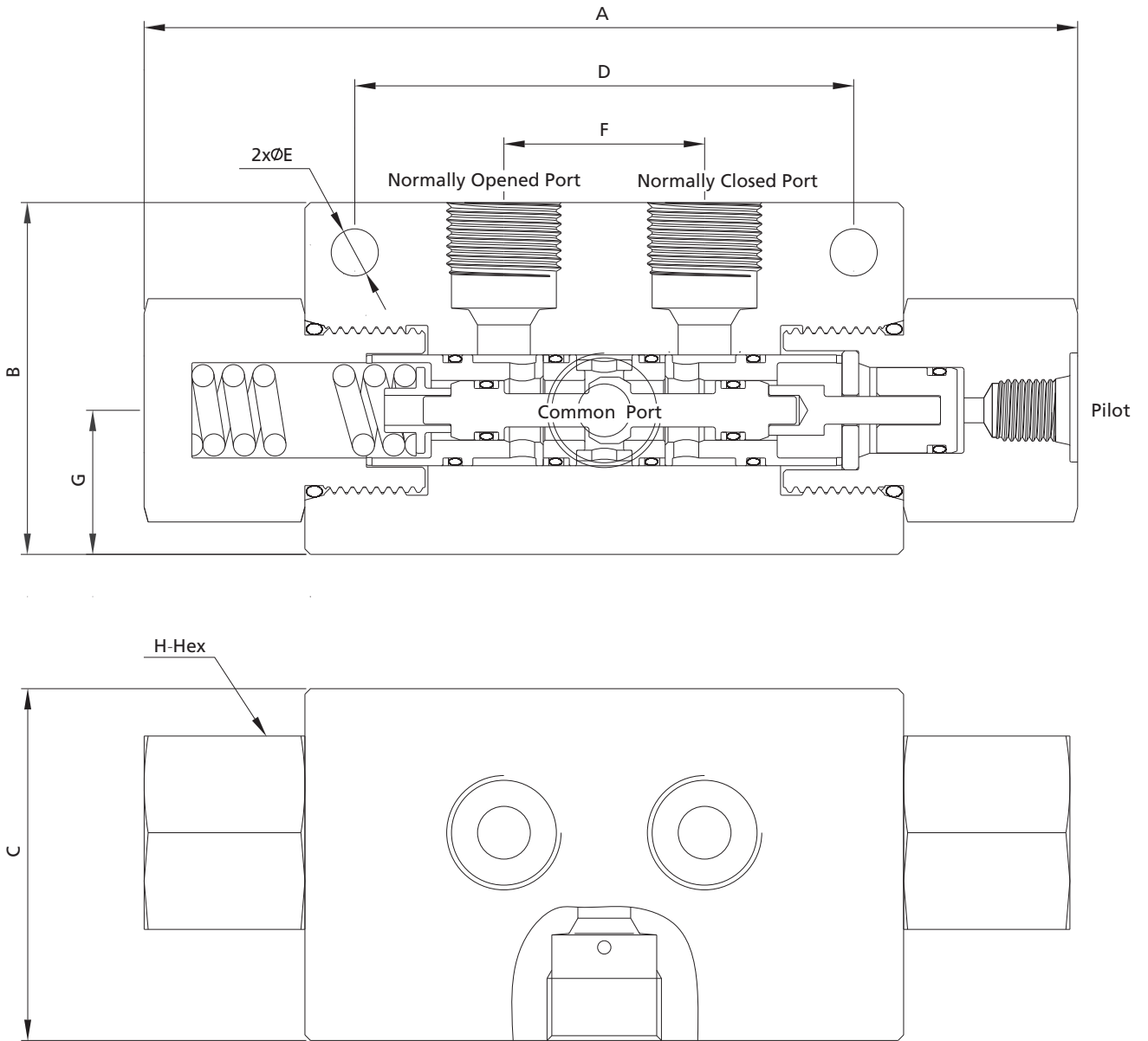


3-position, 4-way

Ordering Number	Dimensions, in. (mm)										Allowable Working Pressure psig (bar)
	A	B	C	D	E	F	G	H	I	Orifice	
15SDCSS-3P4W-2FH9-US7	6.70 (170.3)	3.50 (88.9)	3.50 (88.9)	1.74 (44.2)	2.82 (71.1)	0.41 (10.5)	0.76 (19.4)	1.13 (28.6)	1.00 (25.4)	0.25 (6.35)	15,000 (1034)
15SDCSS-3P4W-2FH9-6-US7	7.20 (183)	3.54 (90)	3.74 (95)	1.26 (32)	3.19 (81)	0.33 (8.5)	1.02 (26)	1.10 (28)	1.10 (28)	0.375 (9.53)	
20SDCSS-3P4W-2FH9-6-US7	7.26 (184.5)	3.78 (96)	4.13 (105)	1.34 (34)	3.50 (89)	0.33 (8.5)	1.02 (26)	1.50 (38)	1.10 (28)	0.375 (9.53)	20,000 (1379)

- Fittings and Tubing
- Adapters and Couplings
- Quick Couplings
- Valves
- Line Filters
- Sour Service Products
- Subsea Valves
- Tools and Installation Instructions
- Technical Information

G-27 Subsea Valves



2-position, 3-way

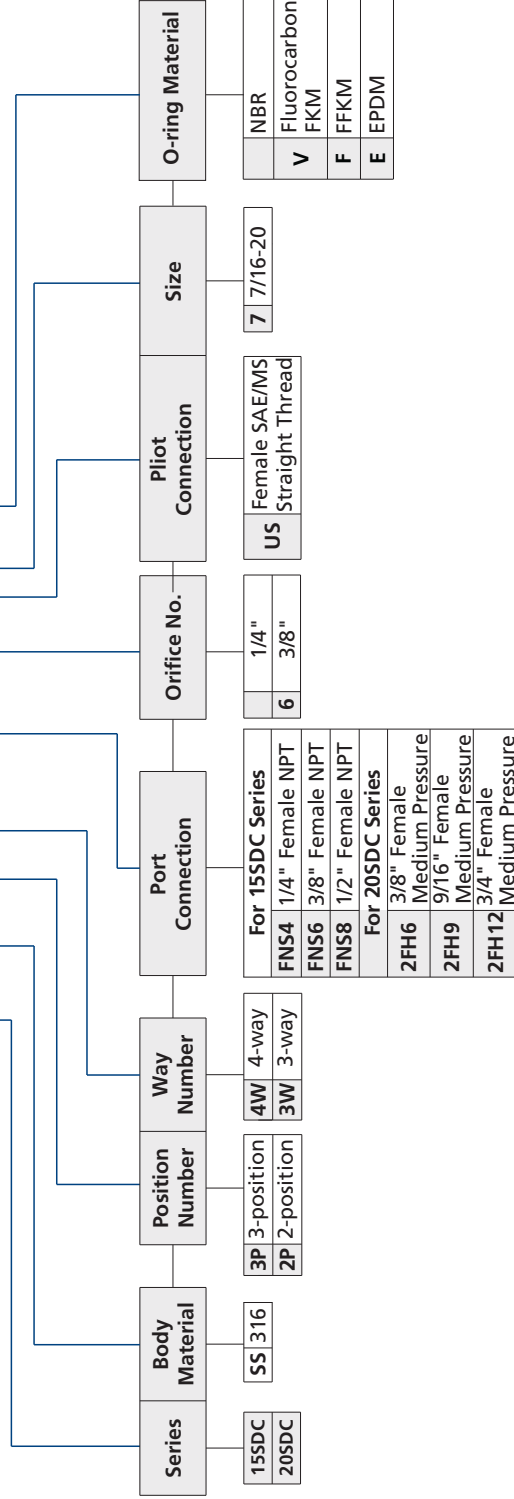
Ordering Number	Dimensions, in. (mm)									Allowable Working Pressure psig (bar)
	A	B	C	D	E	F	G	H	Orifice	
15SDCSS-2P3W-2FH9-US7	5.81 (147.5)	2.28 (58)	2.28 (58)	3.15 (80)	0.33 (8.5)	1.30 (33)	0.87 (22)	1.38 (34.9)	0.25 (6.35)	15,000 (1034)
15SDCSS-2P3W-2FH9-6-US7	6.93 (176)	2.56 (65)	2.56 (65)	3.70 (94)	0.33 (8.5)	1.42 (36)	1.02 (26)	1.63 (41.28)	0.375 (9.53)	
20SDCSS-2P3W-2FH9-6-US7	6.93 (176)	2.56 (65)	2.56 (65)	3.70 (94)	0.33 (8.5)	1.42 (36)	1.02 (26)	1.63 (41.28)	0.375 (9.53)	20,000 (1379)

NOTE: Dimensions are for reference only and are subject to change.

Fittings and Tubing
 Adapters and Couplings
 Quick Couplings
 Valves
 Line Filters
 Sour Service Products
 Subsea Valves
 Tools and Installation
 Instructions
 Technical Information

Ordering Number Description

20SDCSS - 3P4W - 2FH9 - 6 - US7 - V



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

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

Technical Information	Tools and Installation Instructions	Subsea Valves	Source Service Products	Line Filters	Valves	Quick Couplings	Adapters and Couplings	Fittings and Tubing
-----------------------	-------------------------------------	---------------	-------------------------	--------------	--------	-----------------	------------------------	---------------------

FITOK Group

FITOK GmbH (Headquarter)

Sprendlinger Landstr. 115, 63069 Offenbach am Main, Germany
Tel.: +49 69 8900 4498 Fax: +49 69 8900 4495

FITOK, Inc.

13843 North Promenade Blvd., Suite 750, Stafford, Texas 77477, USA
Tel.: +1 281 888 0077 Fax: +1 281 582 4051

FITOK Incorporated

Block C, Zone E, Yingtai Industrial Park, Dalang Street,
Longhua District, Shenzhen, 518109, China
Tel.: +86 755 2803 2500 Fax: +86 755 2803 2619

FITOK Middle East Oil Equipment Trading LLC

208-209, Makateb Tower, Airport Road, P.O.Box 185412, Deira, Dubai, UAE
Tel.: +971 4 2959 853 Fax: +971 4 2959 854

info@fitokgroup.com
www.fitokgroup.com

FK-IC-HV-08-EN-181015