



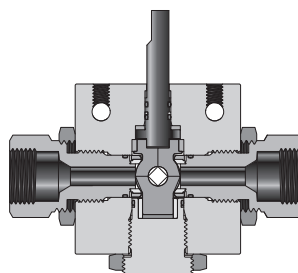
Subsea Valves 15000 & 20000 psig

10S, 15S and 20S Series

Contents

Subsea Ball Valves

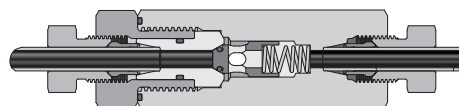
- ❖ Maximum working pressure: 20,000 psig (1,379 bar)
- ❖ Working temperature: 0°F to 250°F (-18°C to 121°C)
- ❖ Maximum water depth: 13,800 ft (4,200 meters)
- ❖ Full-port flow path minimizes pressure drop.



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Subsea Check Valves

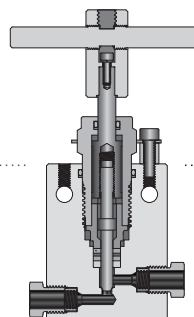
- ❖ Maximum working pressure: 20,000 psig (1,379 bar)
- ❖ Working temperature: 0°F to 250°F (-18°C to 121°C)
- ❖ Maximum water depth: 13,800 ft (4,200 meters)
- ❖ Crack Pressure can be factory set to a desired pressure



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Subsea Needle Valves

- ❖ 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)
- ❖ 2-way straight and 2-way angle available for flow pattern

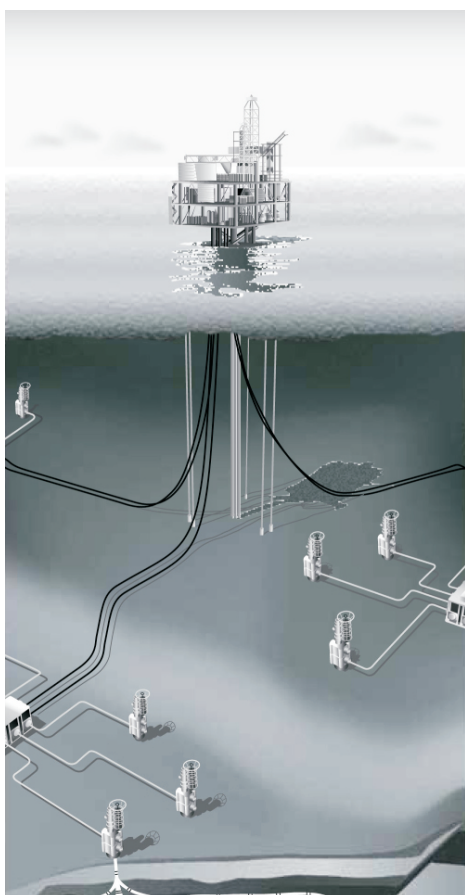


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Subsea Ball Valves

Features

- ❖ 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)
- ❖ One-piece, trunnion mounted style, stem design eliminates shear failure found in two-piece designs.
- ❖ Re-torqueable seat glands for longer seat life.
- ❖ PEEK seats which offer excellent resistance to chemicals, heat, and wear/abrasion.
- ❖ Full-port flow path minimizes pressure drop.
- ❖ 316 cold worked stainless steel construction.
- ❖ Low friction pressure assisted graphite filled PTFE stem seal increases cycle life.
- ❖ Wide selection of tube and pipe end fittings available.
- ❖ Available to NACE MR-01-75.



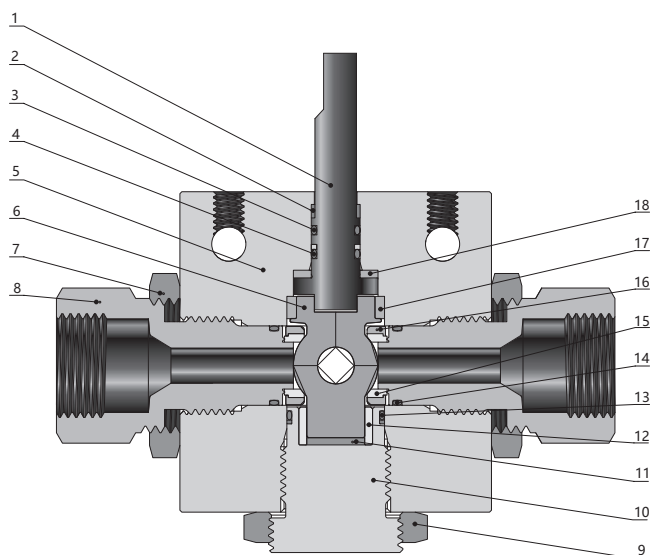
The Hikelok Subsea Ball Valves can be utilized to switch or isolate flow. The standard material of construction of the valve is 316 cold worked stainless steel with PEEK seats, graphite filled PTFE stem seal, and o-ring material as required by the process fluid.

The subsea ball valve design incorporates additional o-ring seals, which prevent the ingress of seawater into the valve which would adversely affect the operation of the valve as well as contaminate the process fluid. A significant feature of the subsea design is a thrust washer positioned under the stem preventing outside sea water from moving the stem from its aligned position.

Subsea ball valves are designed to facilitate operation by a Remote Operated vehicle (ROV). ROV operator assemblies are used for valve mounting and to provide positive stopping for precise 90° operation.

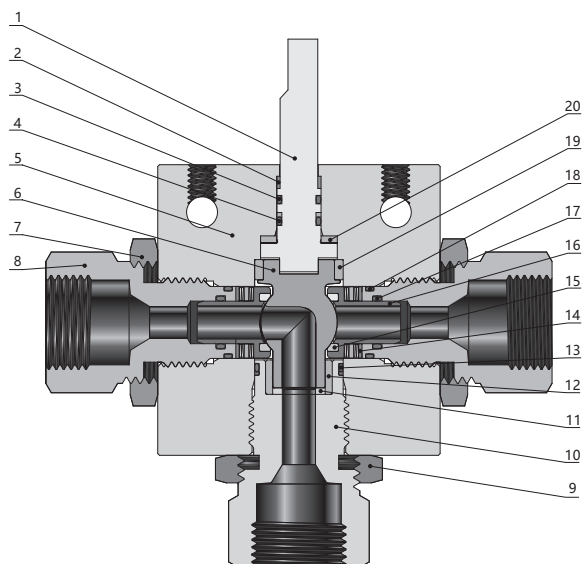
Various tube and pipe connections are available throughout a variety of valve configurations with standard port sizes from 3/16" to 1" . Contact Hikelok sales support or your local distributor for more information on optional materials of construction, seal materials and ROV operator designs to fit your application requirements.

Standard Materials of Construction



2-way Valves

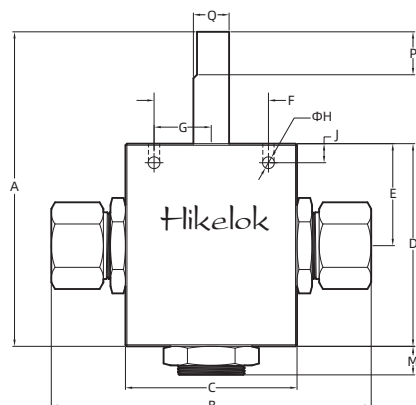
Item	Component	Material Grade / ASTM Specification
1	Ball Stem	316 S.S. / A479
2	Stem Backup	PEEK
3	O-Ring	NBR
4	O-Ring	NBR
5	Body	316 S.S. / A479
6	Ball	316 S.S. / A479
7	Lock Nut	316 S.S. / A479
8	Seat Gland	316 S.S. / A479
9	Locking Piece	316 S.S. / A479
10	Bottom Gland	316 S.S. / A479
11	Bottom Thrust washer	PEEK
12	Bearing	PEEK
13	O-Ring	NBR
14	O-Ring	NBR
15	Seat	PEEK
16	Seat Retainer	316 S.S. / A479
17	Bearing	PEEK
18	Thrust Washer	PEEK



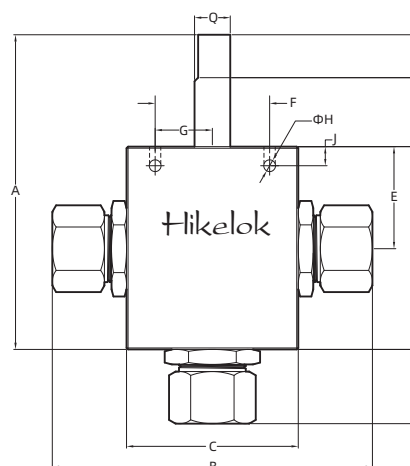
3-way Valves

Item	Component	Material Grade / ASTM Specification
1	Ball Stem	316 S.S. / A479
2	Stem Backup	PEEK
3	O-Ring	NBR
4	O-Ring	NBR
5	Body	316 S.S. / A479
6	Ball	316 S.S. / A479
7	Lock Nut	316 S.S. / A479
8	Seat Gland	316 S.S. / A479
9	Locking Piece	316 S.S. / A479
10	Bottom Gland	316 S.S. / A479
11	Bottom Thrust washer	PEEK
12	Bearing	PEEK
13	O-Ring	NBR
14	Belleville Washer	17-7PH / A693
15	Seat	PEEK
16	Seat Retainer	17-7PH / A693
17	O-Ring	NBR
18	O-Ring	NBR
19	Bearing	PEEK
20	Thrust Washer	PEEK

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)

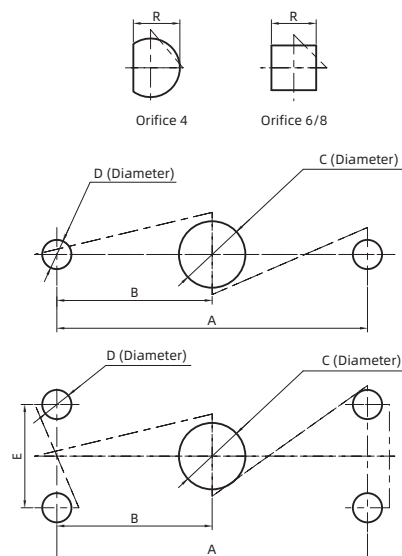
Flow Pattern	Orifice No.	Dimensions, in. (mm)			
		O	P	Q	R
2-way	4	1.278 (32.5)	0.5 (12.7)	0.25 (6.35)	0.22 (5.48)
	6	1.24 (31.7)	1.25 (31.8)	0.44 (11.1)	0.38 (9.35)
	8	1.56 (39.7)	0.88 (22.2)	0.62 (15.9)	0.44 (11.13)
3-way	4	1.28 (32.5)	0.5 (12.7)	0.25 (6.35)	0.22 (5.49)

Ball 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)

Ball stem connection



All are for reference only and are subject to change.

Part Number Description

Ordering Number	Connection Type	Orifice size in. (mm)	Rated Cv	Pressure/Temperature Rating psig (bar) @ Room Temperature
10SBV-LPF8-06-	LPF8	0.25 (6.35)	1.51	10,000 (690)
10SBV-LPF8-10-		0.375 (9.52)	3.51	
10SBV-FNPT12-13-	FNPT12	0.5 (12.7)	10.2	
10SBV-FNPT16-13-	FNPT16			
10SBV-LPF8-10-3-	LPF8	0.328 (8.33)	2.1	
10SBV-MPF6-10-3-	MPF6	0.203 (5.16)	0.81	
10SBV-MPF9-10-3-	MPF9	0.312 (7.92)	1.9	
10SBV-MPF12-10-3-	MPF12	0.328 (8.33)	2.1	
10SBV-FNPT4-10-3-	FNPT4			
10SBV-FNPT6-10-3-	FNPT6			
10SBV-FNPT8-10-3-	FNPT8			
10SBV-MPF12-13-3-	MPF12	0.5 (12.7)	4.4	
10SBV-MPF16-13-3-	MPF16			
10SBV-FNPT12-13-3-	FNPT12			
10SBV-FNPT16-13-3-	FNPT16			
15SBV-LPF2-06-	LPF2	0.094 (2.39)	0.26	15,000 (1,034)
15SBV-LPF4-06-	LPF4	0.128 (3.25)		
15SBV-LPF6-06-	LPF6	0.25 (6.35)	1.51	
15SBV-FNPT2-06-	FNPT2			

Part Number Description

Ordering Number	Connection Type	Orifice size in. (mm)	Rated Cv	Pressure/Temperature Rating psig (bar) @ Room Temperature
15SBV-FNPT4-06-	FNPT4	0.25 (6.35)	1.51	15,000 (1,034)
15SBV-FNPT6-06-	FNPT6			
15SBV-FNPT8-06-	FNPT8			
15SBV-FNPT4-10-	FNPT4	0.375 (9.52)	3.51	
15SBV-FNPT6-10-	FNPT6			
15SBV-FNPT8-10-	FNPT8			
15SBV-FNPT4-05-3-	FNPT4	0.188 (4.77)	0.50	
15SBV-FNPT6-05-3-	FNPT6			
20SBV-MPF4-06-	MPF4	0.109 (2.77)	0.36	
20SBV-MPF6-06-	MPF6	0.203 (5.16)	1.23	
20SBV-MPF9-06-	MPF9	0.25 (6.35)	1.51	
20SBV-HPF4-06-	HPF4	0.094 (2.39)	0.26	
20SBV-HPF6-06-	HPF6	0.125 (3.17)	0.47	
20SBV-HPF9-06-	HPF9	0.188 (4.77)	1.05	
20SBV-MPF6-10-	MPF6	0.203 (5.16)	1.23	
20SBV-MPF9-10-	MPF9	0.312 (7.92)	2.93	
20SBV-MPF12-10-	MPF12	0.375 (9.52)	3.51	
20SBV-MPF4-05-3-	MPF4	0.109 (2.77)	0.17	
20SBV-MPF6-05-3-	MPF6	0.188 (4.77)	0.5	
20SBV-MPF9-05-3-	MPF9			
20SBV-HPF4-05-3-	HPF4	0.094 (2.39)	0.13	
20SBV-HPF6-05-3-	HPF6	0.125 (3.17)	0.22	

How to Order

15SBV — FNPT4 — 05 — T3 — 316					
Series	Connector Sizes	Orifice No.	Stem Drive	Flow Patterns	Body Material
10SBV	LPF2 1/8 in.	For 2-way	D D-Shape	Straight	316 316 S.S.
15SBV	LPF4 1/4 in.	06 1/4 in.			
20SBV	LPF6 3/8 in.	10 3/8 in.	S Square	3 3-Way	
	LPF8 1/2 in.	13 1/2 in.	T T-bar		
	MPF4 1/4 in.	For 3-way			
	MPF6 3/8 in.	05 3/16 in.	R ROV actuation		
	MPF9 9/16 in.	10 3/8 in.			
	MPF12 3/4 in.	13 1/2 in.			
	MPF16 1 in.				
	HPF4 1/4 in.				
	HPF6 3/8 in.				
	HPF9 9/16 in.				
	FNPT2 1/8 in. Female NPT				
	FNPT4 1/4 in. Female NPT				
	FNPT6 3/8 in. Female NPT				
	FNPT8 1/2 in. Female NPT				
	FNPT12 3/4 in. Female NPT				
	FNPT16 1 in. Female NPT				

❖ 3/4" and 1" Female NPT Working pressure to 10000psig

Subsea Check Valves

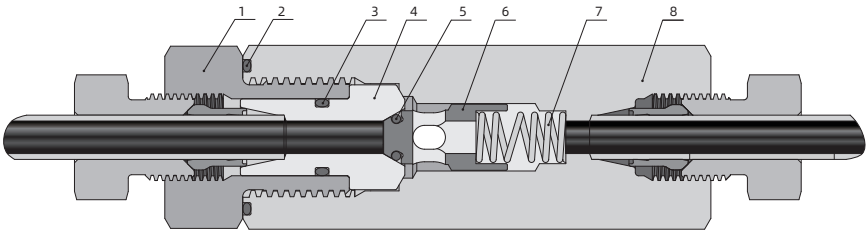
Features

- ❖ 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)
- ❖ Ensure flow in only one direction
- ❖ Available with soft seat o-ring style or metal to metal seat poppet style
- ❖ Cracking pressure can be factory set to a desired pressure



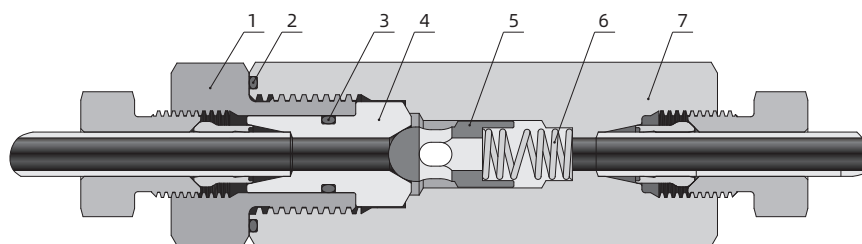
Standard Materials of Construction

O-ring Type



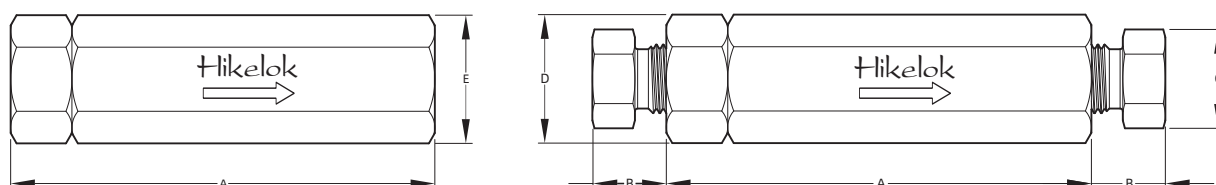
Item	Component	Material Grade / ASTM Specification
1	Cover Gland	316 S.S. / A479
2	Seal Ring	HNBR
3	Seal Ring	HNBR
4	Cover	316 S.S. / A479
5	Seal Ring	Wide Selection of O-rings Available
6	Ball Poppet	316 S.S. / A479
7	Spring	300 S.S.
8	Valve Body	316 S.S. / A479

Ball Type



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

Technical Data and Dimensions



Ordering Number	Connection Type	Orifice Size in. (mm)	Rated Cv	A	B	C (Hex)	D (Hex)	Pressure/Temperature Rating psig (bar) @ Room Temperature
				in. (mm)				
10SCV-FNPT12-	FNPT12	0.52 (13.21)	4.70	6.29 (159.77)	—	—	1.75 (44.45)	10,000 (690)
10SCV-FNPT16-	FNPT16	0.69 (17.53)	7.40	7.33 (186.18)	—	—	1.88 (47.75)	
15SCV-LPF4-	LPF4	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)
15SCV-LPF6-	LPF6	0.250 (6.35)	1.70	3.56 (90.42)	0.53 (13.46)	0.75 (19.05)	1.00 (25.40)	
15SCV-LPF8-	LPF8	0.375 (9.53)	3.40	4.18 (106.17)	0.53 (13.46)	0.93 (23.62)	1.38 (35.05)	
15SCV-FNPT4-	FNPT4	0.12 (3.05)	0.28	3.37 (85.60)	—	—	0.94 (23.81)	
15SCV-FNPT6-	FNPT6	0.22 (5.59)	0.84	3.95 (100.33)	—	—	1.13 (28.58)	
15SCV-FNPT8-	FNPT8	0.36 (9.12)	2.30	5.36 (136.14)	—	—	1.38 (35.05)	
20SCV-MPF4-	MPF4	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)
20SCV-MPF6-	MPF6	0.218 (5.54)	0.84	3.12 (79.25)	0.47 (11.94)	0.62 (15.75)	1.00 (25.40)	
20SCV-MPF9-	MPF9	0.359 (9.12)	2.30	4.18 (106.17)	0.53 (13.46)	0.94 (23.81)	1.38 (35.05)	
20SCV-MPF12-	MPF12	0.516(13.11)	4.70	5.50 (139.70)	0.62 (15.75)	1.19 (30.23)	1.75 (44.45)	
20SCV-MPF16-	MPF16	0.688(17.48)	7.40	6.63 (168.40)	0.72 (18.29)	1.38 (35.05)	2.12 (53.85)	

How to Order

15SCV — FNPT4 — B — 316

Series	Connection Size	Seal Type	Seal material	Body Material
10SCV	LPF4 1/4 in.	Blunt	Fluorocarbon FKM	316 316 S.S.
15SCV	LPF6 3/8 in.	B Ball	BN Buna N	
20SCV	LPF8 1/2 in.		E Ethylene Propylene	
	MPF4 1/4 in.		N Neoprene	
	MPF6 3/8 in.		Z Kalrez	
	MPF9 9/16 in.			
	MPF12 3/4 in.			
	MPF16 1 in.			
	FNPT4 1/4 in. Female NPT			
	FNPT6 3/8 in. Female NPT			
	FNPT8 1/2 in. Female NPT			
	FNPT12 3/4 in. Female NPT			
	FNPT16 1 in. Female NPT			

❖ 3/4" and 1" Female NPT Working pressure to 10000psig

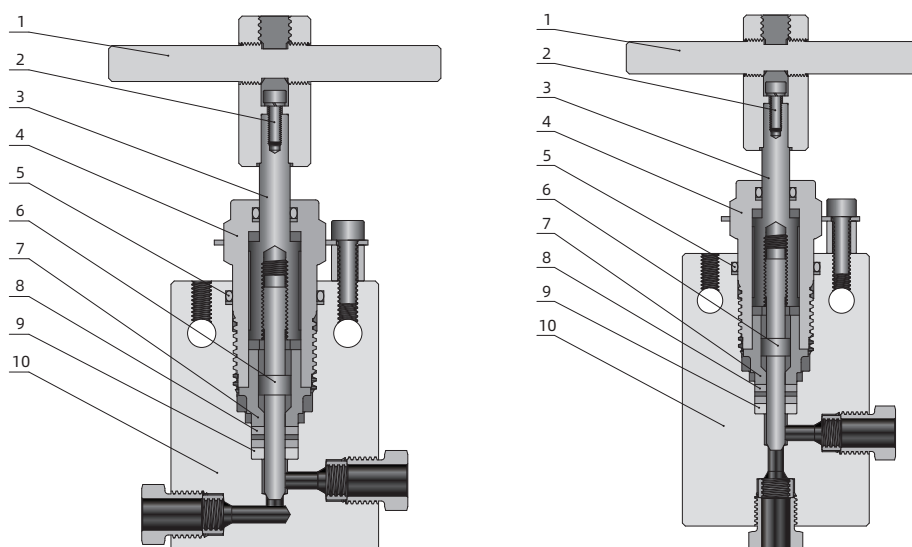
Subsea Needle Valves

Features

- ❖ 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)
- ❖ Orifice: 0.203"
- ❖ Rated CV: 0.75
- ❖ 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



Standard Materials of Construction



Item	Component	Material Grade / ASTM Specification
1	Handle	303 S.S.
2	Handle Screw	304 S.S.
3	Upper Stem	316 S.S. / A479
4	Packing Gland	316 S.S. / 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 S.S. / A479

