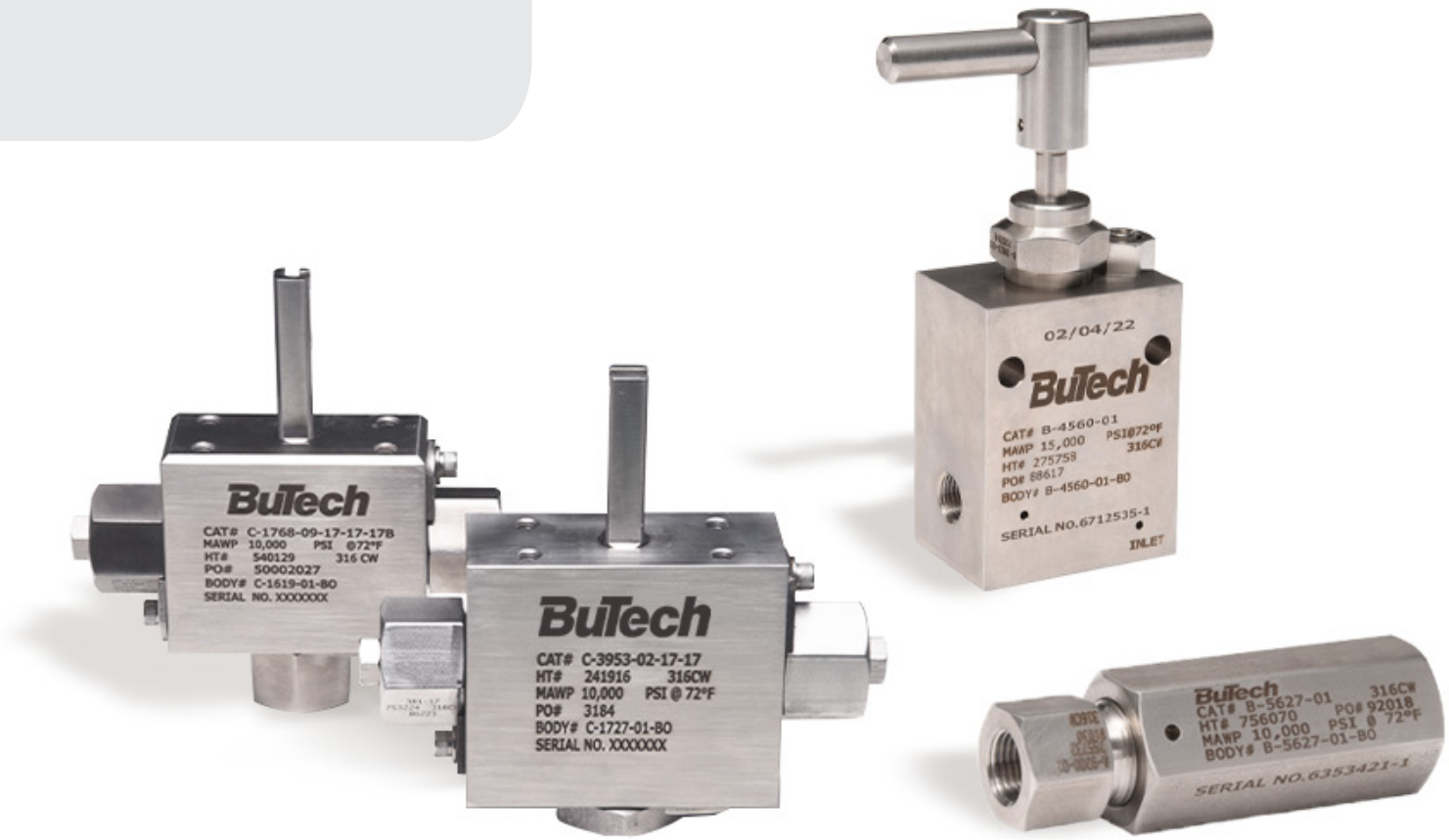
BuTech®

An Ingersoll Rand Business

Subsea Valves



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Introduction

BuTech subsea valves meet performance, safety, and reliability expectations in the deepest water and harshest environments in the offshore oil and gas industry. With 30 years experience in the subsea market BuTech has been a leader in developing new and innovative ways to control the increasing temperature and pressure requirements as the industry moves to greater depths.

BuTech's subsea, needle, ball, double block and bleed valves, and assemblies are installed in some of the oil and gas industry's most challenging applications. From ball valves for onshore and topside applications to subsea valves performing in the harsh environments of the deepest offshore waters, BuTech leads the industry in performance, safety, and reliability.

Features and Benefits

- API 6A & 17D, PR2, Annex F/PSL3G qualified valves are available.
- All valves are internally pressure tested to at least 50% over rated pressure.
- Externally sealed design for depths to 14,000 feet (4200 meters).
- Typical service life guarantee of 25 years.
- Custom designed for instrumentation, process control, and chemical injection applications. Remote operated vehicle (ROV) capabilities in template control panels, subsea wellheads, and Christmas trees.
- Subsea valves can be manufactured to meet the requirements of NACE MR0175.
- Trouble free operation in a variety of media including hydrogen sulfides, corrosion inhibitors, paraffin thinners, hydraulic fluids, and other harsh chemicals.

Considerations in Selecting the Proper Subsea Valves

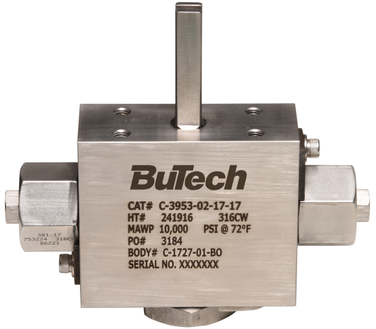
- Pressure / temperature rating
- End connections
- Service conditions and fluids
- Performance requirements
- Material compatibility
- Flow pattern required
- Customer specifications
- Water depth
- Needle or ball valve
- Orifice size needed
- Flow requirements
- Dimensional envelope and weight
- Method of operation
- Service life expectancy
- Handle configuration

Standard Materials of Construction

BuTech subsea ball valves may be produced in any machinable metal with special seal materials. *Please consult our factory for custom requirements.*

Standard materials include:

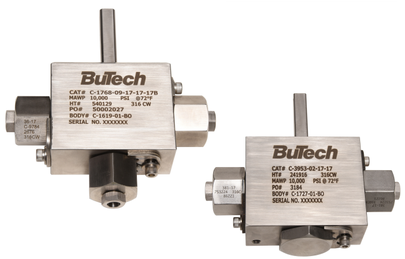
- 316 cold-worked stainless steel
- Super duplex



Valve Types & Features

Subsea Ball Valves

- Quarter or half turn action provides quick open/close ROV or diver operation
- Independent spring-loaded seals for full differential pressure
- Trunnion mounted ball design and blowout proof stem for maximum safety
- Externally sealed design for depths to 14.000 feet (4200 meters)
- Easy mounting for ROV, diver, or remote actuation
- Wide selection of end connections available
- Double barrier O-rings or cup seal options available on select valves
- Full port flow path through valve to minimize pressure drop
- Bi-directional flow capabilities
- A variety of seal materials are available for different services
- Corrosion-resistant alloys available for extreme service
- PEEK seats to offer resistance to chemicals, heat, and wear/abrasion
- 3/8” and 1/2” sized 2-way & 3-way designs, 3/8” 4-way design



Subsea Needle Valves

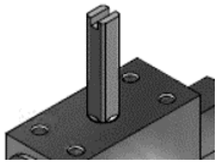
- Non-rotating, non-rising stem prevents galling and scoring
- Metal to metal seating
- Stem packing below threads prevents thread galling and fouling
- Positive gland locking device
- Corrosion-resistant alloys available for extreme services
- Bracket or panel mounting
- Externally sealed design for depths to 14,000 feet (4200 meters)
- Various connections available

Subsea Check Valves

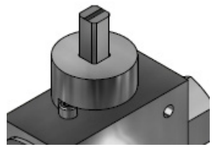
- Ensure flow in only one direction
- Rated to pressures of 15,000 psig and above
- Designed to the same rigorous standards as the Subsea Ball and Needle Valves ensuring a long maintenance-free life
- Corrosion resistant alloys available for extreme services
- Externally sealed design for depths to 14,000 feet (4200 meters)
- Available with metal to metal seat poppet style or gas tight soft seat O-ring style
- Various cracking pressures available

Ball Valves Operation Options

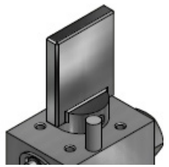
Customers have different requirements for their ROV operators and we can accommodate most requests.
Below are the current modes of operation that BuTech offers.



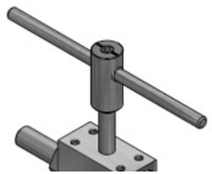
B Square



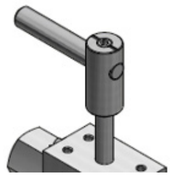
HS Hub with Stops



PS Paddle with Stops
P Paddle with NO Stops



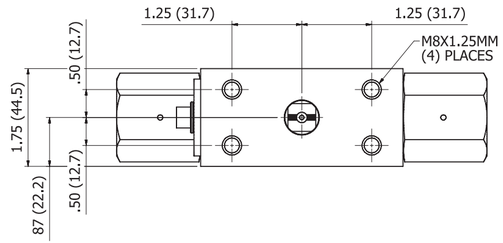
T 10.5”
T9 Paddle with NO Stops
T6 Paddle with NO Stops

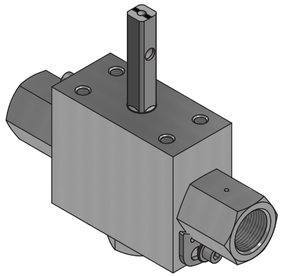


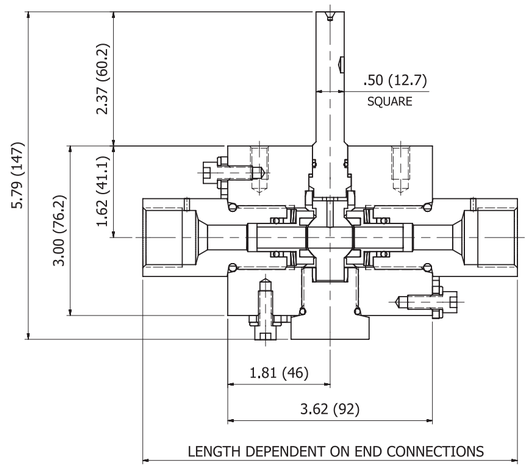
L

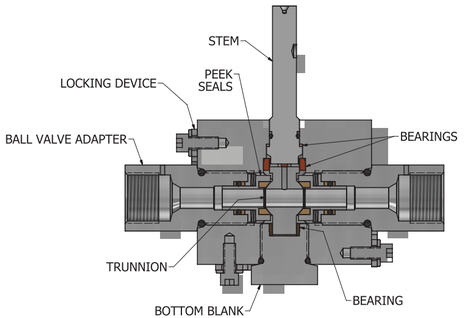
2-way Subsea Ball Valves: 3/8" Port

Pressure to 15,000 PSI









2-way Subsea Ball Valves: 3/8" Port

Pressure to 15,000 PSI

Example Catalog Number: 2SB156H3B-6M-PSL3G

Catalog Number:	2	SB	15	6	H	3	B	-6M	-PSL3G
Valve Description/ Requirements:	1. Number of Connections	2. Valve Series	3. Pressure Rating	4. Ball Orifice (Port)	5. O-Ring Material	6. Material of Construction	7. Operation	8. End Connections	9. Options

1. Number of Connections

2	2-Way Subsea Ball Valve

2. Valve Series

SB	Subsea Ball Valve

3. Pressure Rating

10	10,000 PSI (17D)
15	15,000 PSI

4. Ball Orifice (Port)

6	3/8" Diameter

5. O-Ring Material

B	Buna (+275ºF)
H	HNBR (+350ºF)
HL	HNBR (17D) (0ºF to +250ºF)
N	Nitrile (+250ºF Max)
F	Flurocarbon (Viton +400ºF Max)
G	GFLT (+400ºF)
V	Vermilion (17D) (0ºF to +250ºF)

6. Material of Construction

3	316 Stainless Steel (17D)
5	Duplex 2205
6	Alloy 625
7	Super Duplex 2507

7. Operation

B	Square Stem Only
HS	Hub with Stops
P	Paddle Handle
PS	Paddle Handle with Stops
T	Tee Handle (10.50")
T6	Tee Handle (6.00")
T9	Tee Handle (9.00")
L	L Handle

8. End Connections

-4M	1/4" M/P female
-6M	3/8" M/P female
-9M	9/16" M/P female
-12M	3/4" M/P female
-4P	1/4" NPT female
-6P	3/8" NPT female
-8P	1/2" NPT female
-12P	3/4" NPT female

Consult BuTech for additional connections

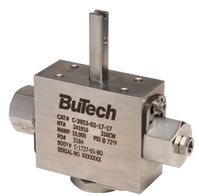
9. Options

-SOG	Sour Gas Service
-PSL3	Test Level
-PSL3G	Test Level with Gas
-17D	API 6A 17D (at 10K)
Blank	No additional option

Modifications

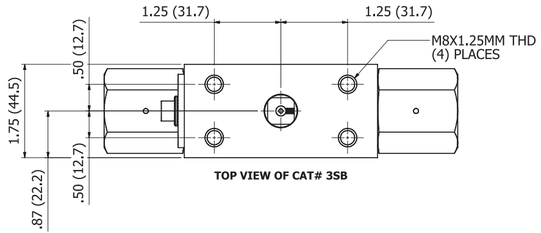
Consult BuTech for additional options

(17D) Pressure and Materials used for PR2 Performance qualification test per API 6A Appendix F and API 15D.

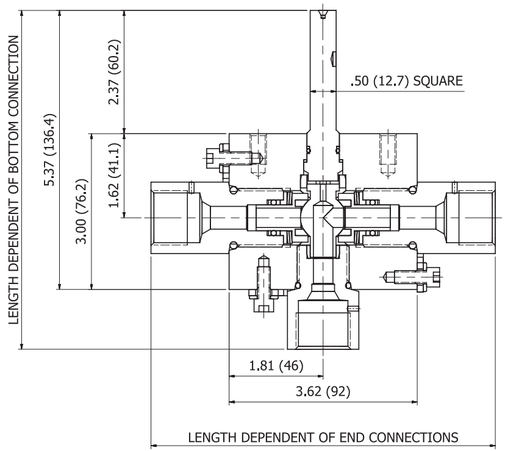


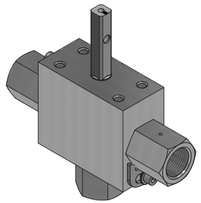
3-way Subsea Ball Valves: 3/8” Port

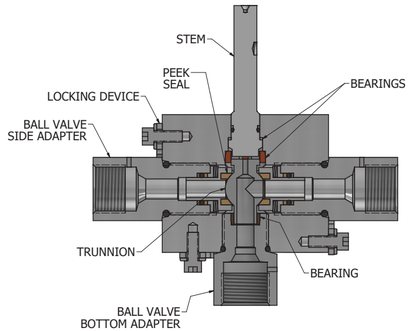
Pressure to 15,000 PSI

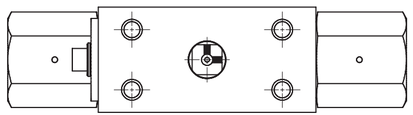


TOP VIEW OF CAT# 3SB









TOP VIEW OF CAT# 3DSB

3-way Subsea Ball Valves: 3/8" Port

Pressure to 15,000 PSI

Example Catalog Number: 3DSB106N3B-6P

Catalog Number:	3D	SB	10	6	N	3	B	-6P	
Valve Description/ Requirements:	1. Number of Connections	2. Valve Series	3. Pressure Rating	4. Ball Orifice (Port)	5. O-Ring Material	6. Material of Construction	7. Operation	8. End Connections	9. Options

1. Number of Connections

3	3-Way 180° Subsea Ball Valve
3D	3-Way 90° Subsea Ball Valve

2. Valve Series

SB	Subsea Ball Valve

3. Pressure Rating

10	10,000 PSI (17D)
15	15,000 PSI

4. Ball Orifice (Port)

6	3/8" Diameter

5. O-Ring Material

B	Buna (+275°F Max)
H	HNBR (+350°F Max)
HL	HNBR (17D) (0° to +250°F)
N	Nitrile (+250°F Max)
F	Flurocarbon (Viton +400°F Max)
G	GFLT (+400°F)
V	Vermilion (17D) (0° to +250°F)

6. Material of Construction

3	316 Stainless Steel (17D)
5	Duplex 2205
6	Alloy 625
7	Super Duplex 2507

7. Operation

B	Square Stem Only
HS	Hub with Stops
P	Paddle Handle
PS	Paddle Handle with Stops
T	Tee Handle (10.50")
T6	Tee Handle (6.00")
T9	Tee Handle (9.00")
L	L Handle

8. End Connections

-4M	1/4" M/P female
-6M	3/8" M/P female
-9M	9/16" M/P female
-12M	3/4" M/P female
-4P	1/4" NPT female
-6P	3/8" NPT female
-8P	1/2" NPT female
-12P	3/4" NPT female

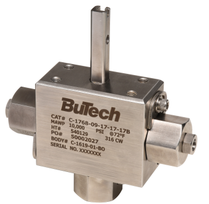
Consult BuTech for additional connections

9. Options

-SOG	Sour Gas Service
-PSL3	Test Level
-PSL3G	Test Level with Gas
-17D	API 6A 17D (at 10K, 316SS only)
Blank	No additional option

Modifications

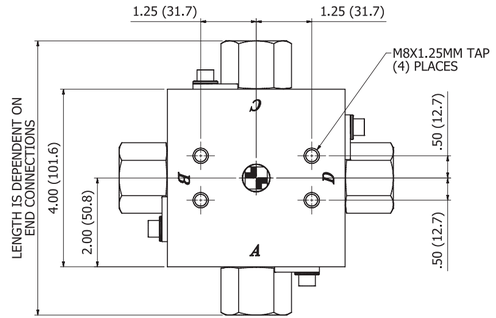
Consult BuTech for additional options

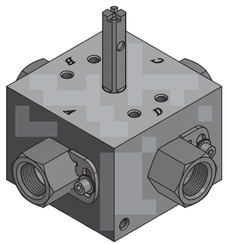


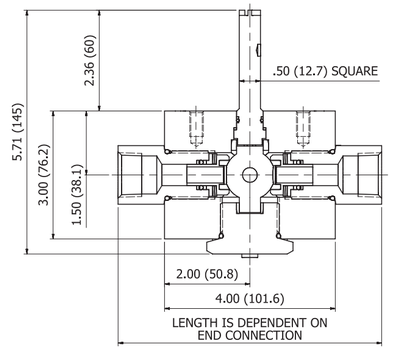
(17D) Pressure and Materials used for PR2 Performance qualification test per API 6A Appendix F and API 15D.

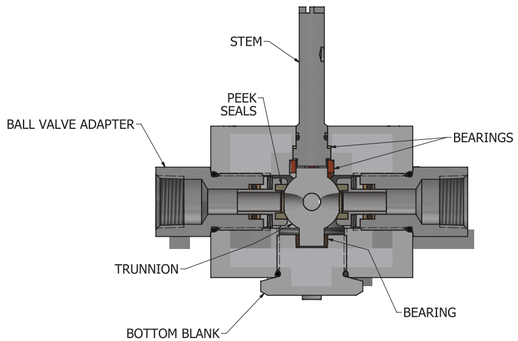
4 & 5-way Subsea Ball Valves: 3/8” Port

Pressure to 10,000 PSI









4 & 5-way Subsea Ball Valves: 3/8" Port

Pressure to 10,000 PSI

Example Catalog Number: 4SB106B3HS-8P

Catalog Number:	4	SB	10	6	B	3	HS	-8P	
Valve Description/ Requirements:	1. Number of Connections	2. Valve Series	3. Pressure Rating	4. Ball Orifice (Port)	5. O-Ring Material	6. Material of Construction	7. Operation	8. End Connections	9. Options

1. Number of Connections

4	4-Way 90º Subsea Ball Valve
5	5-Way 360º Subsea Ball Valve

2. Valve Series

SB	Subsea Ball Valve

3. Pressure Rating

10	10,000 PSI (17D)

4. Ball Orifice (Port)

6	3/8" Diameter

5. O-Ring Material

B	Buna (+275ºF)
H	HNBR (+350ºF)
HL	HNBR (17D) (0ºF to +250ºF)
C	Chemraz (+446ºF Max)
N	Nitrile (+250ºF Max)
F	Flurocarbon (Viton +400ºF)
G	GFLT (+400ºF)
V	Vermilion (17D) (0ºF to +250ºF)

6. Material of Construction

3	316 Stainless Steel
5	Duplex 2205
6	Alloy 625
7	Super Duplex 2507 (17D)

7. Operation

B	Square Stem Only
HS	Hub with Stops
P	Paddle Handle
PS	Paddle Handle with Stops
T	Tee Handle (10.50")
T6	Tee Handle (6.00")
T9	Tee Handle (9.00")
L	L Handle

8. End Connections

-4M	1/4" M/P female
-6M	3/8" M/P female
-9M	9/16" M/P female
-12M	3/4" M/P female
-4P	1/4" NPT female
-6P	3/8" NPT female
-8P	1/2" NPT female
-12P	3/4" NPT female

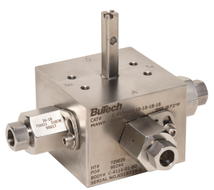
Consult BuTech for additional connections

9. Options

-SOG	Sour Gas Service
-PSL3	Test Level
-PSL3G	Test Level with Gas
-17D	API 6A 17D
Blank	No additional option

Modifications

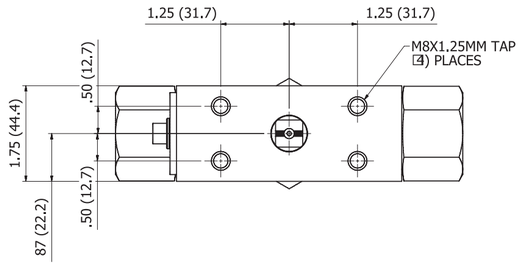
Consult BuTech for additional options

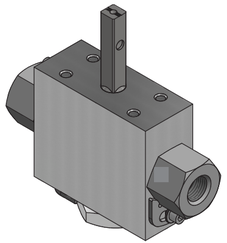


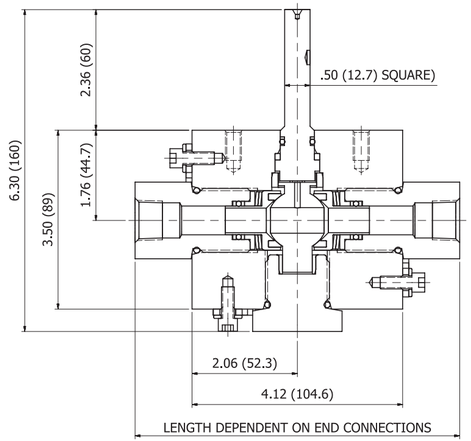
(17D) Pressure and Materials used for PR2 Performance qualification test per API 6A Appendix F and API 15D.

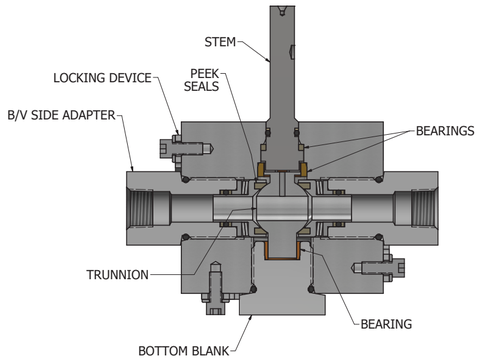
2-way Subsea Ball Valves: 1/2” Port

Pressure to 10,000 PSI









2-way Subsea Ball Valves: 1/2" Port

Pressure to 10,000 PSI

Example Catalog Number: 2SB108H3B-9M-17D

Catalog Number:	2	SB	10	8	H	3	B	-9M	-17D
Valve Description/ Requirements:	1. Number of Connections	2. Valve Series	3. Pressure Rating	4. Ball Orifice (Port)	5. O-Ring Material	6. Material of Construction	7. Operation	8. End Connections	9. Options

1. Number of Connections

2	2-Way Subsea Ball Valve

2. Valve Series

SB	Subsea Ball Valve

3. Pressure Rating

10	10,000 PSI (17D)

4. Ball Orifice (Port)

8	1/2" Diameter

5. O-Ring Material

B	Buna (+275ºF)
H	HNBR (+350ºF)
HL	HNBR (17D) (0ºF to +250ºF)
N	Nitrile (+250ºF Max)
F	Flurocarbon (Viton +400ºF)
G	GFLT (+400ºF)
V	Vermilion (17D) (0ºF to +250ºF)

6. Material of Construction

3	316 Stainless Steel (17D)
5	Duplex 2205
6	Alloy 625
7	Super Duplex 2507

7. Operation

B	Square Stem Only
HS	Hub with Stops
P	Paddle Handle
PS	Paddle Handle with Stops
T	Tee Handle (10.50")
T6	Tee Handle (6.00")
T9	Tee Handle (9.00")
L	L Handle

8. End Connections

-6M	3/8" M/P female
-9M	9/16" M/P female
-12M	3/4" M/P female
-16M	1" M/P female
-6P	3/8" NPT female
-8P	1/2" NPT female
-12P	3/4" NPT female

Consult BuTech for additional options

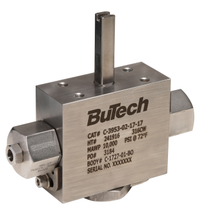
9. Options

-SOG	Sour Gas Service
-PSL3	Test Level
-PSL3G	Test Level with Gas
-17D	API 6A 17D (at 10K)
Blank	No additional option

Modifications

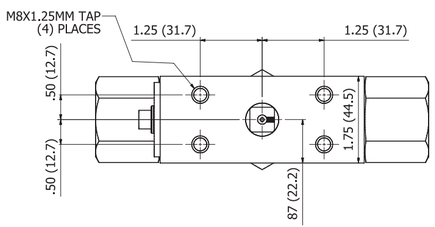
Consult BuTech for additional options

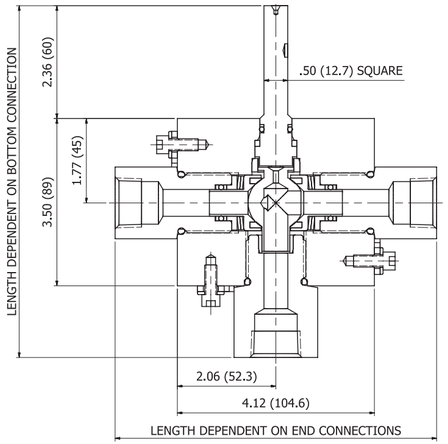
(17D) Pressure and Materials used for PR2 Performance qualification test per API 6A Appendix F and API 15D.

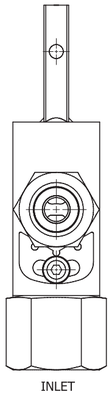


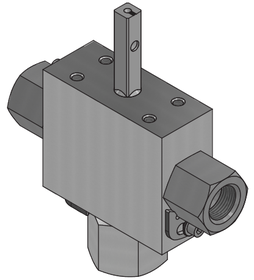
3-way Subsea Ball Valves: 1/2” Port

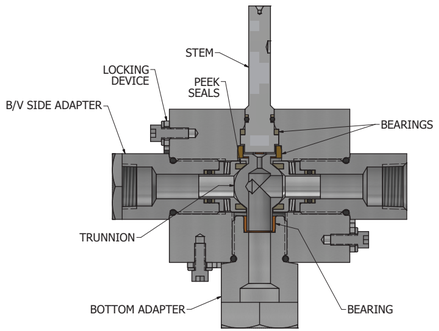
Pressure to 10,000 PSI











3-way Subsea Ball Valves: 1/2" Port

Pressure to 10,000 PSI

Example Catalog Number: 3SB108H3B-9M-17D

Catalog Number:	3	SB	10	8	H	3	B	-9M	-17D
Valve Description/ Requirements:	1. Number of Connections	2. Valve Series	3. Pressure Rating	4. Ball Orifice (Port)	5. O-Ring Material	6. Material of Construction	7. Operation	8. End Connections	9. Options

1. Number of Connections

3	3-Way 180° Subsea Ball Valve
3D	3-Way 90° Subsea Ball Valve

2. Valve Series

SB	Subsea Ball Valve

3. Pressure Rating

10	10,000 PSI

4. Ball Orifice (Port)

8	1/2" Diameter

5. O-Ring Material

B	Buna (+275°F Max)
H	HNBR (+350°F Max)
HL	HNBR (17D) (0°F to +250°F)
N	Nitrile (+250°F Max)
F	Flurocarbon (Viton +400°F Max)
G	GFLT (+400°F)
V	Vermilion (17D) (0°F to +250°F)

6. Material of Construction

3	316 Stainless Steel (17D)
5	Duplex 2205
7	Super Duplex 2507

7. Operation

B	Square Stem Only
HS	Hub with Stops
P	Paddle Handle
PS	Paddle Handle with Stops
T	Tee Handle (10.50")
T6	Tee Handle (6.00")
T9	Tee Handle (9.00")
L	L Handle

8. End Connections

-9M	9/16" M/P female
-12M	3/4" M/P female
-16M	1" M/P female
-8P	1/2" NPT female
-12P	3/4" NPT female
-16P	1" NPT female

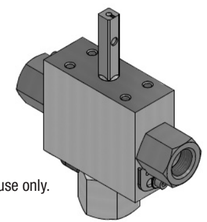
Consult BuTech for additional options

9. Options

-SOG	Sour Gas Service
-PSL3	Test Level
-PSL3G	Test Level with Gas
-17D	API 6A 17D (at 10K)
Blank	No additional option

Modifications

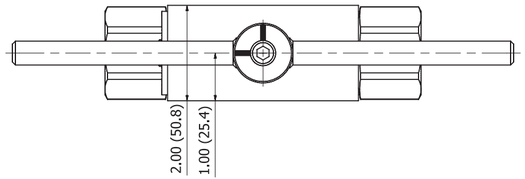
Consult BuTech for additional options

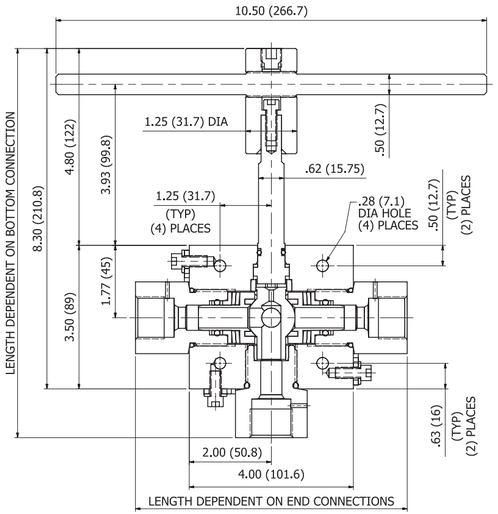


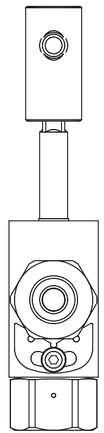
Bottom inlet use only.

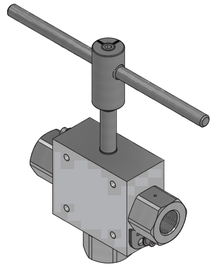
3-way Subsea Ball Valves: 1/2” Port

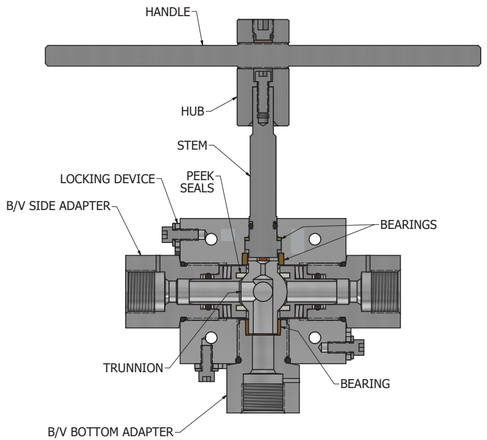
Pressure to 10,000 PSI











3-way Subsea Ball Valves: 1/2" Port

Pressure to 10,000 PSI

Example Catalog Number: 3SBSL108H7T-9M

Catalog Number:	3	SBSL	10	8	H	7	T	-9M	
Valve Description/ Requirements:	1. Number of Connections	2. Valve Series	3. Pressure Rating	4. Ball Orifice (Port)	5. O-Ring Material	6. Material of Construction	7. Operation	8. End Connections	9. Options

1. Number of Connections

3	3-Way 180° Subsea Ball Valve
3D	3-Way 90° Subsea Ball Valve

2. Valve Series

SBSL	Subsea Ball Valve

3. Pressure Rating

8	8,000 PSI
10	10,000 PSI

4. Ball Orifice (Port)

8	1/2" Diameter

5. O-Ring Material

B	Buna (+275°F Max)
H	HNBR (+350°F Max)
HL	HNBR (0°F to +250°F)
N	Nitrile (+250°F Max)
F	Flurocarbon (Viton +400°F Max)
G	GFLT (+400°F)
V	Vermilion (0°F to +250°F)

6. Material of Construction

3	316 Stainless Steel (8 KPSI)*
5	Duplex 2205**
7	Super Duplex 2507**

7. Operation

B	Square Stem Only
HS	Hub with Stops
P	Paddle Handle
PS	Paddle Handle with Stops
T	Tee Handle (10.50")
T6	Tee Handle (6.00")
T9	Tee Handle (9.00")
L	L Handle

8. End Connections

-9M	9/16" M/P female
-12M	3/4" M/P female
-16M	1" M/P female
-8P	1/2" NPT female
-12P	3/4" NPT female
-16P	1" NPT female

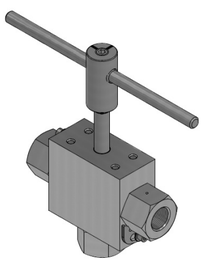
Consult BuTech for additional options

9. Options

-SOG	Sour Gas Service
-PSL3	Test Level
-PSL3G	Test Level with Gas
Blank	No additional option

Modifications

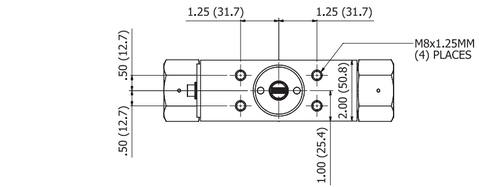
Consult BuTech for additional options

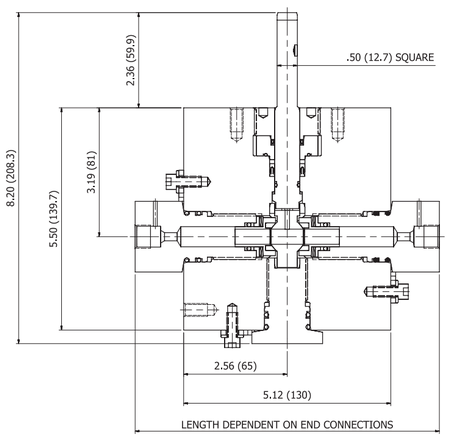


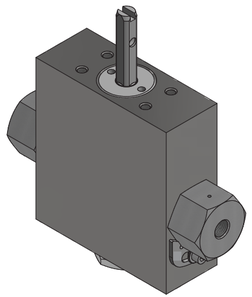
*316 SS material to 8,000 PSI Maximum
**Side loaded in Duplex & Super Duplex to 10,000 PSI Maximum

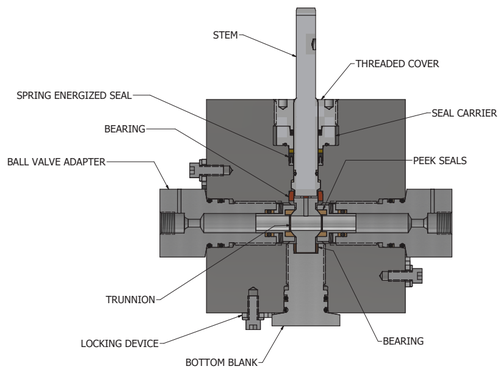
2-way Double Barrier
Subsea Ball Valves: 3/8” Port

Pressure to 10,000 PSI (15,000 PSI made from Duplex)









10,000 PSI version shown

2-way Double Barrier
Subsea Ball Valves: 3/8" Port

Pressure to 10,000 PSI (15,000 PSI made from Duplex)

Example Catalog Number: 2SBD106H3B-6M

Catalog Number:	2	SBD	10	6	H	3	B	-6M	
Valve Description/ Requirements:	1. Number of Connections	2. Valve Series	3. Pressure Rating	4. Ball Orifice (Port)	5. O-Ring Material	6. Material of Construction	7. Operation	8. End Connections	9. Options

1. Number of Connections	
2	2-Way Subsea Ball Valve

2. Valve Series	
SBD	Cup Seal / Double Barrier

3. Pressure Rating	
10	10,000 PSI (316 SS)
15	15,000 PSI (Duplex) (17D)

4. Ball Orifice (Port)	
6	3/8" Diameter

5. O-Ring Material	
B	Buna (+275ºF Max)
H	HNBR (+350ºF Max)
HL	HNBR (17D) (0ºF to +250ºF)
N	Nitrile (+250ºF Max)
F	Flurocarbon (Viton +400ºF Max)
G	GFLT (+400ºF)
V	Vermilion (17D) (0ºF to +250ºF)

6. Material of Construction	
3	316 Stainless Steel (10 KPSI Max)
5	Duplex 2205 (15 KPSI Max) 2.25" thk. Block
7	Super Duplex 2507 (15 KPSI Max) 2.25" thk. Block (17D)

7. Operation	
B	Square Stem Only
HS	Hub with Stops
P	Paddle Handle
PS	Paddle Handle with Stops
T	Tee Handle (10.50")
T6	Tee Handle (6.00")
T9	Tee Handle (9.00")
L	L Handle

8. End Connections	
-4M	1/4" M/P female
-6M	3/8" M/P female
-9M	9/16" M/P female
-12M	3/4" M/P female
-4P	1/4" NPT female
-6P	3/8" NPT female
-8P	1/2" NPT female
-12P	3/4" NPT female

Consult BuTech for additional options

9. Options	
-SOG	Sour Gas Service
-PSL3	Test Level
-PSL3G	Test Level with Gas
-6A	API 6A Appendix F
-17D	API 6A/17D (at 15K)
Blank	No additional option

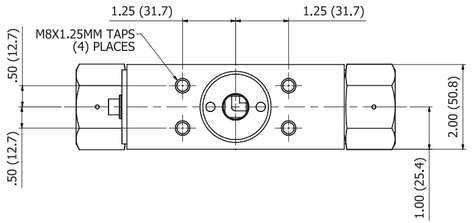
Modifications

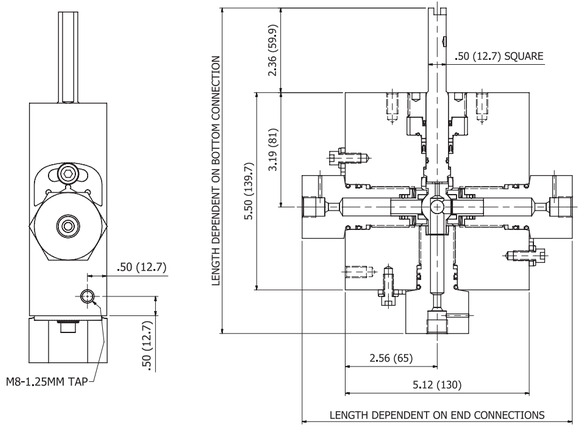
Consult BuTech for additional options

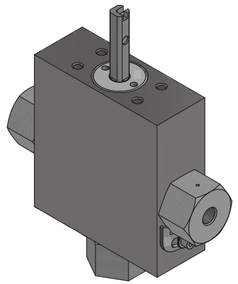
(17D) Pressure and Materials used for PR2 Performance qualification test per API 6A Appendix F and API 15D.

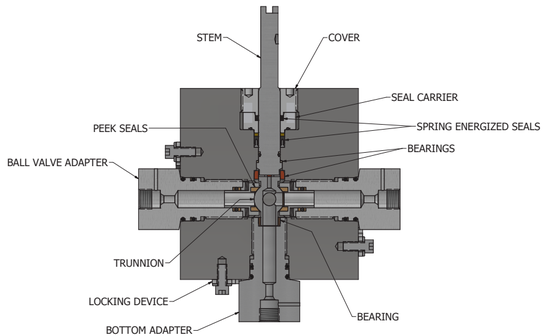
3-way Double Barrier
Subsea Ball Valves: 3/8” Port

Pressure to 10,000 PSI (15,000 PSI made from Duplex)









3-way Double Barrier
Subsea Ball Valves: 3/8" Port

Pressure to 10,000 PSI (15,000 PSI made from Duplex)

Example Catalog Number: 3SBD106G3B-6M

Catalog Number:	3	SBD	10	6	G	3	B	-6M	
Valve Description/ Requirements:	1. Number of Connections	2. Valve Series	3. Pressure Rating	4. Ball Orifice (Port)	5. O-Ring Material	6. Material of Construction	7. Operation	8. End Connections	9. Options

1. Number of Connections

3	3-Way 180° Subsea Ball Valve
3D	3-Way 90° Subsea Ball Valve

2. Valve Series

SBD	Cup Seal / Double Barrier

3. Pressure Rating

10	10,000 PSI (316 SS)
15	15,000 PSI (Duplex) (17D)

4. Ball Orifice (Port)

6	3/8" Diameter

5. O-Ring Material

B	Buna (+275°F Max)
H	HNBR (+350°F Max)
HL	HNBR (0°F to +250°F) (17D)
N	Nitrile (+250°F Max)
F	Flurocarbon (Viton +400°F Max)
G	GFLT (+400°F)
V	Vermilion (17D) (0°F to +250°F)

6. Material of Construction

3	316 Stainless Steel (10 KPSI Max)
5	Duplex 2205 (15 KPSI Max) 2.25" thk. Block
7	Super Duplex 2507 (15 KPSI Max) (17D) 2.25" thk. Block

7. Operation

B	Square Stem Only
HS	Hub with Stops
P	Paddle Handle
PS	Paddle Handle with Stops
T	Tee Handle (10.50")
T6	Tee Handle (6.00")
T9	Tee Handle (9.00")
L	L Handle

8. End Connections

-4M	1/4" M/P female
-6M	3/8" M/P female
-9M	9/16" M/P female
-12M	3/4" M/P female
-4P	1/4" NPT female
-6P	3/8" NPT female
-8P	1/2" NPT female
-12P	3/4" NPT female

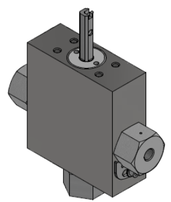
Consult BuTech for additional options

9. Options

-SOG	Sour Gas Service
-PSL3	Test Level
-PSL3G	Test Level with Gas
-6A	API 6A Appendix F
-17D	API 6A/17D (at 15K)
Blank	No additional option

Modifications

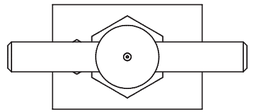
Consult BuTech for additional options



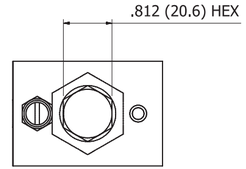
(17D) Pressure and Materials used for PR2 Performance qualification test per API 6A Appendix F and API 15D.

Subsea Needle Valve
With Non-Rising Stem (0.94” Orifice)

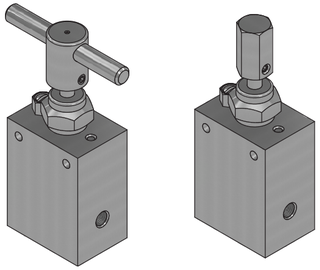
Pressure to 20,000 PSI

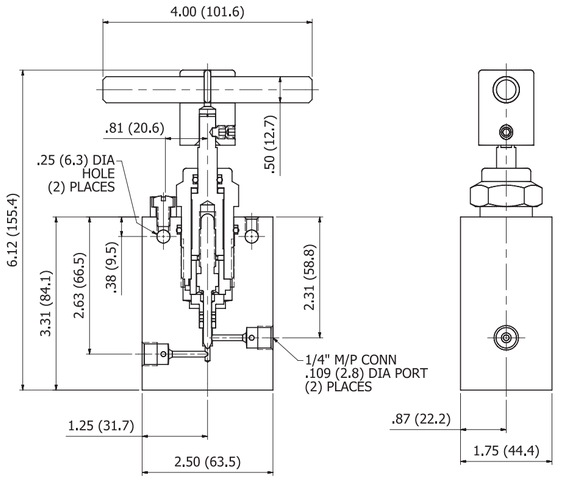


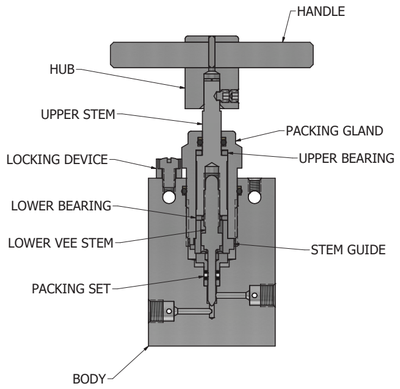
TOP VIEW
B-5884-01 WITH TEE HANDLE



TOP VIEW
B-5884-02 WITH HEX COUPLING







Subsea Needle Valve
With Non-Rising Stem (0.94" Orifice)

Pressure to 20,000 PSI

Example Catalog Number: SNV4M2V20B3-C

Catalog Number:	SNV	4M	2	V	20	B	3	-C	
Valve Description/ Requirements:	1. Valve Series	2. Connection	3. Flow Path	4. Stem Type	5. Pressure Rating (See Table 2)	6. O-Ring Material	7. Material of Construction	8. Operation	9. Options

1. Valve Series

SNV	Subsea Needle Valve

2. Connection

-4M	1/4" M/P female, 20 KPSI
-4H	1/4" H/P female, 20 KPSI

Consult BuTech for additional options

3. Flow Path

1	Straight through pattern
2	Angle pattern
6	Replacable seat (angle pattern)

4. Stem Type

V	Vee Stem Tip
R	Regulating Stem Tip

6. O-Ring Material

B	Buna (+275ºF Max)
H	HNBR (+350ºF Max)
N	Nitrile (+250ºF)
T	PTFE
F	Flurocarbon (-20º +400ºF)
G	GFLT (-20º +400ºF)
V	Vermilion

7. Material of Construction

3	316 Stainless Steel
5	Duplex 2205
7	Super Duplex 2507

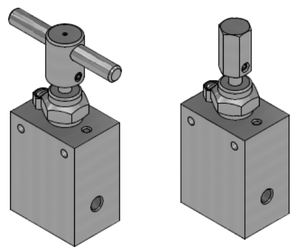
8. Operation

Blank	Standard Tee Handle
-C	Hex Coupling

9. Options

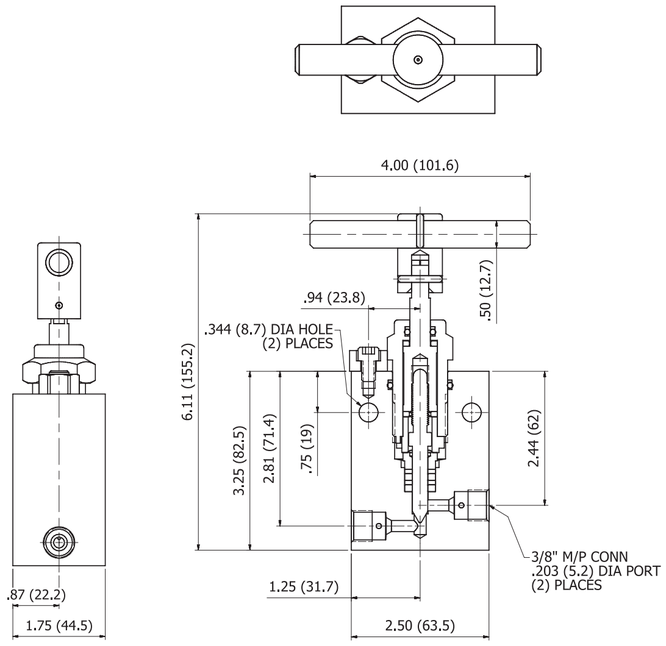
Blank	Standard FAT Performed
-PSL3	Test Level
-PSL3G	Test Level With Gas

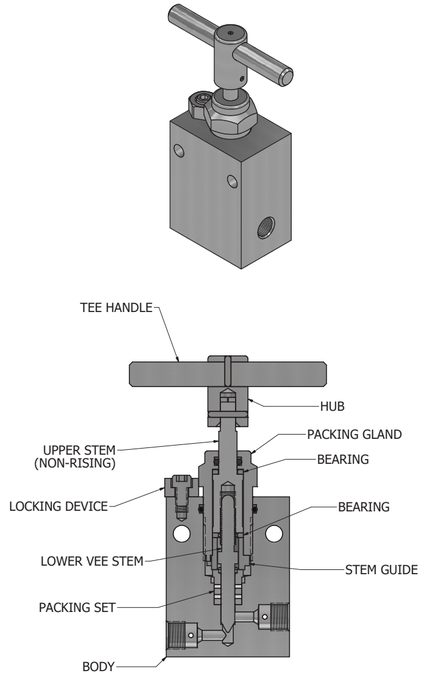
Consult BuTech for additional options



Subsea Needle Valve
With Non-Rising Stem (0.203” Orifice)

Pressure to 20,000 PSI





Subsea Needle Valve
With Non-Rising Stem (0.203" Orifice)

Pressure to 20,000 PSI

Example Catalog Number: SNV6M2V20B3-C

Catalog Number:	SNV	6M	2	V	20	B	3	-C	
Valve Description/ Requirements:	1. Valve Series	2. Connection	3. Flow Path	4. Stem Type	5. Pressure Rating (See Table 2)	6. O-Ring Material	7. Material of Construction	8. Operation	9. Options

1. Valve Series

SNV	Subsea Needle Valve

2. Connection

-4P	1/4" FNPT, 15 KPSI
-4M	1/4" M/P female, 20 KPSI (.109" Port)
-6M	3/8" M/P female, 20 KPSI

Consult BuTech for additional options

3. Flow Path

1	Straight through pattern
2	Angle pattern
6	Replacable seat (angle pattern)

4. Stem Type

V	Vee Stem Tip
R	Regulating Stem Tip

6. O-Ring Material

B	Buna (+275ºF Max)
H	HNBR (+350ºF Max)
N	Nitrile (+250ºF)
T	PTFE
F	Flurocarbon (Viton +400ºF)
G	GFLT (-20º +400ºF)
V	Vermilion

7. Material of Construction

3	316 Stainless Steel
5	Duplex 2205
7	Super Duplex 2507

8. Operation

Blank	Standard Tee Handle
-C	Hex Coupling

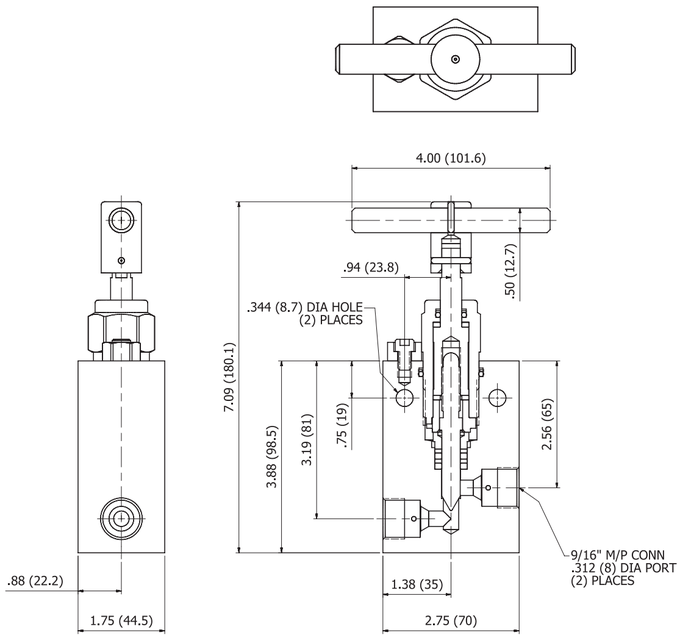
9. Options

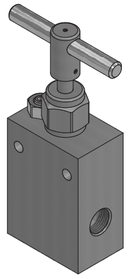
Blank	Standard FAT Performed
-PSL3	Test Level
-PSL3G	Test Level With Gas

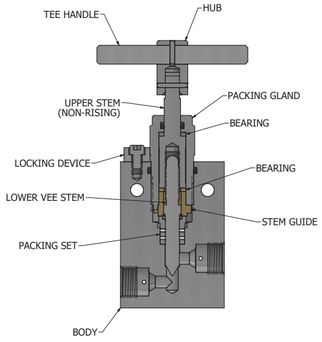
Consult BuTech for additional options

Subsea Needle Valve
With Non-Rising Stem (0.312” Orifice)

Pressure to 20,000 PSI







Subsea Needle Valve
With Non-Rising Stem (0.312" Orifice)

Pressure to 20,000 PSI

Example Catalog Number: SNV9M1V20N3

Catalog Number:	SNV	9M	1	V	20	N	3		
Valve Description/ Requirements:	1. Valve Series	2. Connection	3. Flow Path	4. Stem Type	5. Pressure Rating (See Table 2)	6. O-Ring Material	7. Material of Construction	8. Operation	9. Options

1. Valve Series

SNV	Subsea Needle Valve

2. Connection

-9M	9/16" M/P female (20 KPSI)
-8P	1/2" FNPT (15 KPSI)

Consult BuTech for additional options

3. Flow Path

1	Straight through pattern
2	Angle pattern
6	Replacable seat (angle pattern)

4. Stem Type

V	Vee Stem Tip
R	Regulating Stem Tip

6. O-Ring Material

B	Buna (+275ºF Max)
H	HNBR (+350ºF Max)
N	Nitrile (+250ºF)
T	PTFE
F	Flurocarbon (Viton +400ºF)
G	GFLT (+400ºF)
V	Vermilion

7. Material of Construction

3	316 Stainless Steel
5	Duplex 2205
7	Super Duplex 2507

8. Operation

Blank	Standard Tee Handle
-C	Hex Coupling

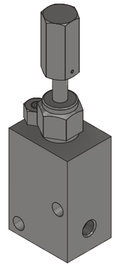
9. Options

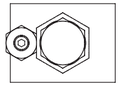
Blank	Standard FAT Performed
-PSL3	Test Level
-PSL3G	Test Level With Gas

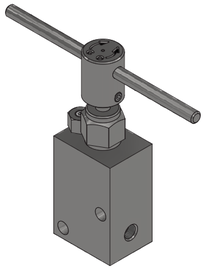
Consult BuTech for additional options

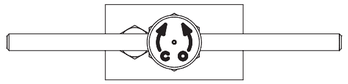
Custom Size Needle Valves

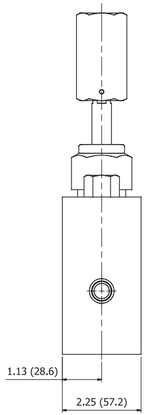
Upon Request

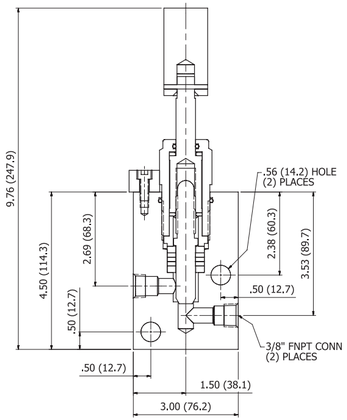


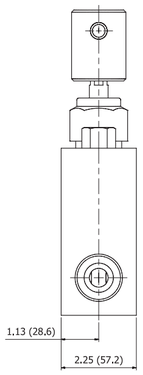


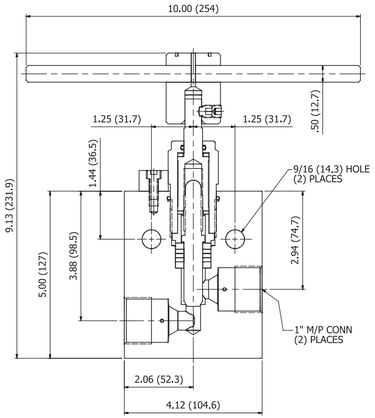








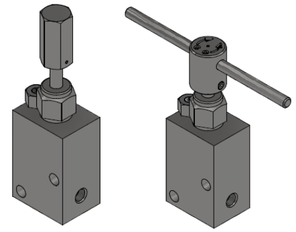




Custom Size Needle Valves

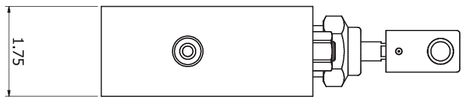
Upon Request

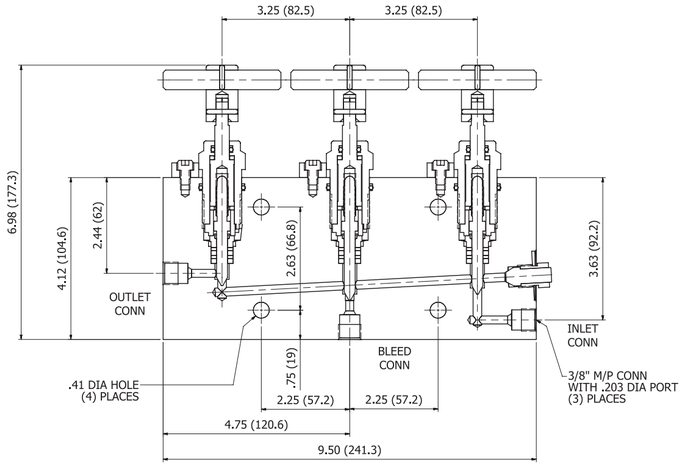
As the Subsea industry grew our customer demands and requirements changed, resulting in many variations of valve design. This catalog shows the most common among them, however, we do have other designs that may be right for you. If you did not find what you need in this catalog, please contact BuTech for additional offerings.

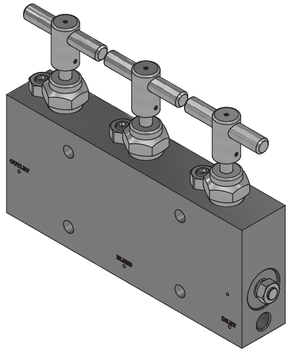


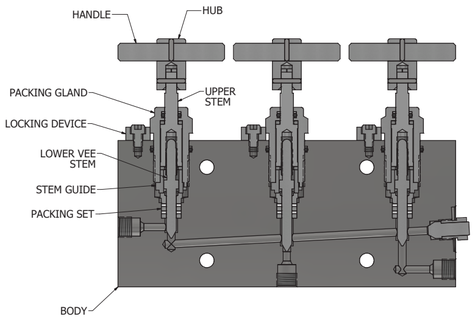
Subsea Double Block & Bleed Needle Valve with Non-Rising Stem

Pressure to 20,000 PSI









Subsea Double Block & Bleed Needle Valve with Non-Rising Stem

Pressure to 15,000 PSI

Example Catalog Number: SDBV6MV15B3

Catalog Number:	SDBV	6M	V	15	B	3		
Valve Description/ Requirements:	1. Valve Series	2. Connection	3. Stem Type	4. Pressure Rating (See Table 2 and 6)	5. O-Ring Material	6. Material of Construction	7. Operation	8. Options

1. Valve Series

SDBV	Subsea Double Block & Bleed Valve

2. Connection

-4M	1/4" M/P female (.109" port)
-6M	3/8" M/P (.203" port)
-6P	3/8" FNPT (.219" port)
-8P	1/2" FNPT (.219" port)

Consult BuTech for additional options

3. Stem Type

V	Vee Stem Tip
R	Regulating Stem Tip

4. Pressure Rating

15	15,000 PSI

5. O-Ring Material

B	Buna (+275ºF Max)
H	HNBR (+350ºF Max)
N	Nitrile (+250ºF)
T	PTFE
F	Flurocarbon (+400ºF)
G	GFLT (+400ºF)
V	Vermilion

6. Material of Construction

3	316 Stainless Steel (15 KPSI)
5	Duplex 2205 (15 KPSI)
7	Super Duplex 2507 (15 KPSI)

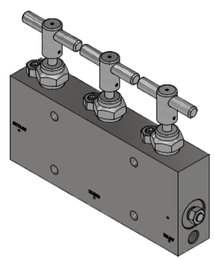
7. Operation

Blank	Standard Tee Handle
-C	Hex Coupling

8. Options

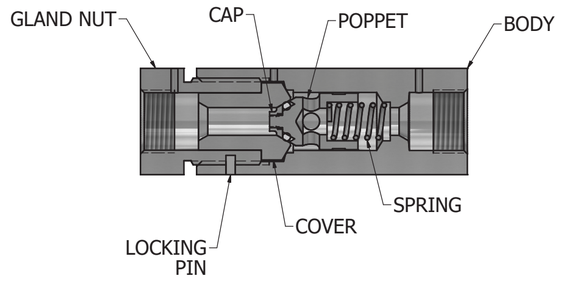
Blank	Standard FAT Performed
-PSL3	Test Level
-PSL3G	Test Level With Gas

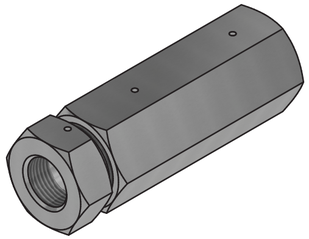
Consult BuTech for additional options

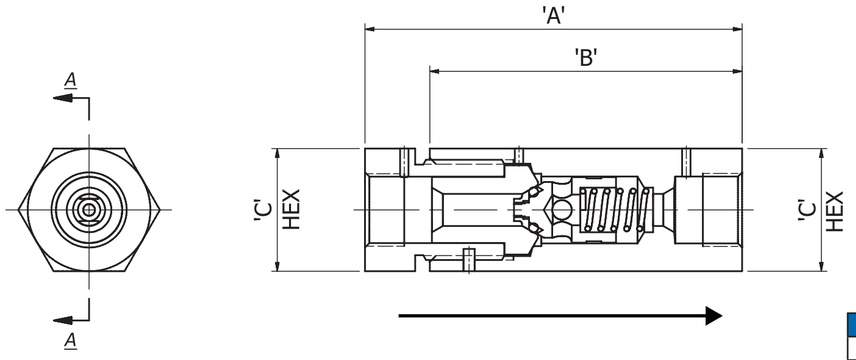


Subsea Check Valves

Pressure to 15,000 PSI







	Dimensions		
Connection:	**A**	**B**	**C (hex)**
1/4" FNPT	2.94	2.26	0.75
3/8" FNPT	3.56	2.62	1.12
1/2" FNPT	4.62	3.5	1.37
3/8" M/P	3.12	2.62	1.12
9/16" M/P	4.23	3.5	1.37

Subsea Check Valves

Pressure to 15,000 PSI

Example Catalog Number: SSC6M15T3

Catalog Number:	**SSC**	**6M**	**15**	**T**	**3**		
Valve Description/ Requirements:	1. Valve Series	2. Connection	3. Pressure Rating (See Table 2)	4. O-Ring Material	5. Material of Construction	6. Cracking Pressure	7. Options

1. Valve Series	
SBC	Subsea Ball Check Valve
SSC	Subsea Soft Seat Check Valve

2. Connection	
-4P	1/4" FNPT (15 KPSI)
-6P	3/8" FNPT (15 KPSI)
-8P	1/2" FNPT (15 KPSI)
-6M	3/8" M/P female (15 KPSI)
-9M	9/16" M/P female (15 KPSI)

Consult BuTech for additional options

4. O-Ring Material	
B	Buna (+275ºF Max)
H	HNBR (+350ºF Max)
N	Nitrile (+250ºF)
T	PTFE
F	Fluorocarbon (+400ºF)
G	GFLT (+400ºF)
V	Vermilion

5. Material of Construction	
3	316 Stainless Steel (15 KPSI)
5	Duplex 2205 (15 KPSI)
7	Super Duplex 2507 (15 KPSI)

6. Cracking Pressure	
Blank	Standard ~ 15 PSI
-50	~ 50 PSI
-100	~ 100 PSI

Consult BuTech for additional options

7. Options	
Blank	Standard FAT Performed
-PSL3	Test Level
-PSL3G	Test Level With Gas

Consult BuTech for additional options

BuTech, a business of Ingersoll Rand, is a leading brand of high-pressure valves, fittings and tubing designed to meet the critical requirements of today's most demanding applications.

For more information on our high-pressure products, visit butech-valve.com or contact your local BuTech representative at hq@butech-valve.com.

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