

Bleed Valves, Gauge Valves and Block & Bleed Valves



FIRTECH

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FK-IC-HV-06-EN-151103



Contents

Bleed Valves

Pressures to 30,000 psi (2068 bar) 01

Gauge Valves

Pressures to 30,000 psi (2068 bar) 04

Block & Bleed Needle Valves

Pressures to 20,000 psi (1379 bar) 08

Double Block & Bleed Needle Valves

Pressures to 20,000 psi (1379 bar) 11

Double Block & Bleed Ball Valves

Pressures to 15,000 psi (1034 bar) 14

Bleed Valves

Pressures to 30,000 psi (2068 bar)

Features

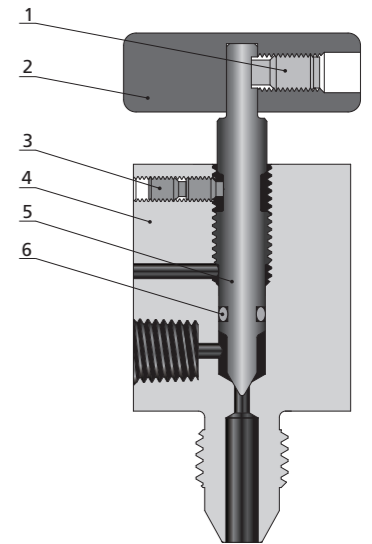
- ⦿ One piece hex construction compact design allows easy installation.
- ⦿ Easy to assemble and replace O-ring.
- ⦿ Positive locking screw design prevents accidental removal of the stem.
- ⦿ Tee handle for easy operation.
- ⦿ Fluorocarbon FKM O-rings for operation from 0°F to 400°F (-17.8°C to 204°C).
- ⦿ 1/8" NPT outlet connection.

Standard Materials of Construction

Item	Component	Material Grade/ASTM Specification
1	Handle Screw	Stainless steel
2	Handle	Stainless steel
3	Locking screw	Stainless steel
4	Body	316 SS/A479
5	Stem	S17400/A564
6	O-ring	Fluorocarbon FKM
	Lubricant	Molybdenum disulfide/Fluorinated-based

Note:

1. Special materials available on request. For the materials not shown above, please contact the authorized representative or FITOK Group.



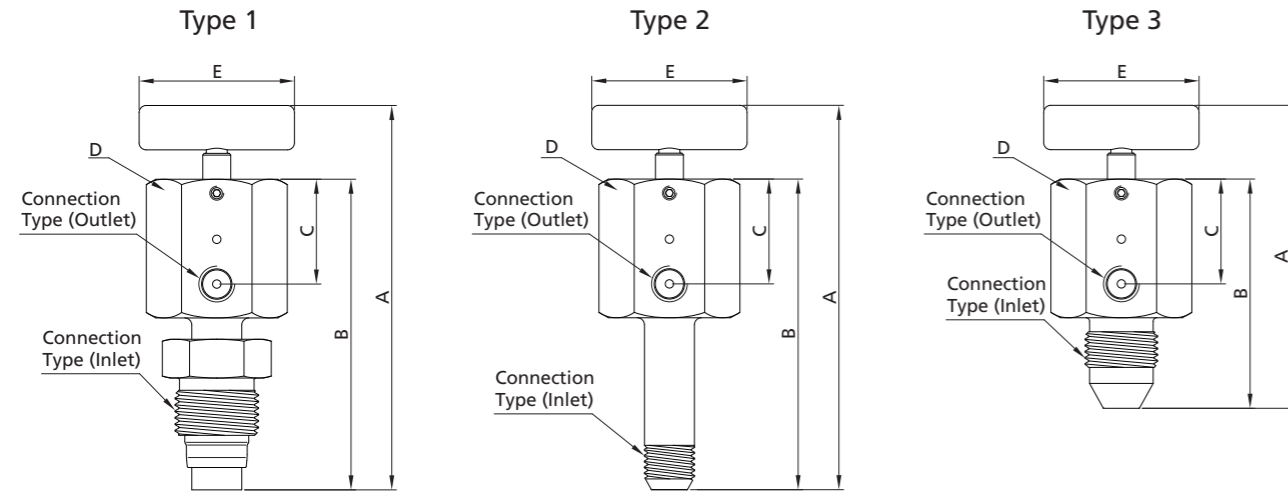
Technical Data

Series	Connection Type (Inlet)	Orifice in. (mm)	Pressure @ Room Temperature psig (bar)
15BV	FM6	0.095 (2.4)	15,000 (1034)
	FM8	0.095 (2.4)	15,000 (1034)
	FM9	0.095 (2.4)	15,000 (1034)
20BV	2MP6	0.095 (2.4)	20,000 (1379)
	2MP9	0.095 (2.4)	20,000 (1379)
	2CT6	0.095 (2.4)	20,000 (1379)
	2CT9	0.095 (2.4)	20,000 (1379)
30BV	6MP6	0.095 (2.4)	30,000 (2068)
	6MP9	0.095 (2.4)	30,000 (2068)
	6CT6	0.095 (2.4)	30,000 (2068)
	6CT9	0.095 (2.4)	30,000 (2068)

Note:

A variety of end connections available on request. For connections not shown above, please contact the authorized representative or FITOK Group.

Dimensions



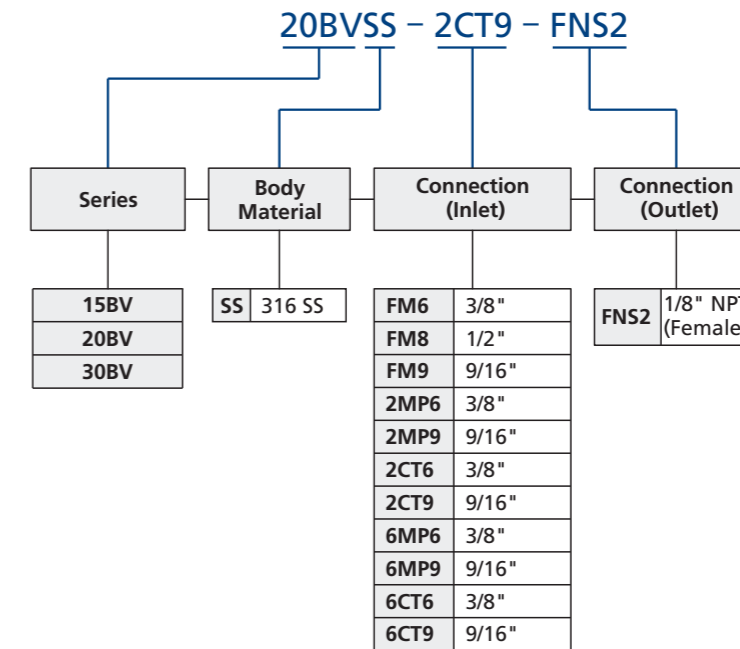
Dimensions (Type 1)								
Ordering Number	Connection Type (Inlet)	Connection Type (Outlet)	Orifice in. (mm)	A	B	C	D	E
				in. (mm)				
15BVSS-FM6-FNS2	FM6	FNS2	0.094 (2.4)	3.69 (93.8)	2.86 (72.7)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)
15BVSS-FM8-FNS2	FM8	FNS2	0.094 (2.4)	3.80 (96.8)	2.98 (75.7)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)
15BVSS-FM9-FNS2	FM9	FNS2	0.094 (2.4)	4.33 (110)	3.50 (88.9)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)

Dimensions (Type 2)								
Ordering Number	Connection Type (Inlet)	Connection Type (Outlet)	Orifice in. (mm)	A	B	C	D	E
				in. (mm)				
20BVSS-2CT6-FNS2	2CT6	FNS2	0.094 (2.4)	3.65 (92.6)	2.81 (71.5)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)
20BVSS-2CT9-FNS2	2CT9	FNS2	0.094 (2.4)	3.93 (99.8)	3.10 (78.7)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)
30BVSS-6CT6-FNS2	6CT6	FNS2	0.094 (2.4)	3.93 (99.8)	3.10 (78.7)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)
30BVSS-6CT9-FNS2	6CT9	FNS2	0.094 (2.4)	4.38 (111.3)	3.55 (90.2)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)

Dimensions (Type 3)								
Ordering Number	Connection Type (Inlet)	Connection Type (Outlet)	Orifice in. (mm)	A	B	C	D	E
				in. (mm)				
20BVSS-2MP6-FNS2	2MP6	FNS2	0.094 (2.4)	3.41 (86.7)	2.58 (65.6)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)
20BVSS-2MP9-FNS2	2MP9	FNS2	0.094 (2.4)	3.41 (86.7)	2.58 (65.6)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)
30BVSS-6MP6-FNS2	6MP6	FNS2	0.094 (2.4)	3.41 (86.7)	2.58 (65.6)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)
30BVSS-6MP9-FNS2	6MP9	FNS2	0.094 (2.4)	3.41 (86.7)	2.58 (65.6)	1.18 (30.0)	1.37 (34.9)	1.75 (44.5)

Note:
 1. D is the dimension of hex.
 2. A is the dimension of stem in closed position.
 3. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

Part Number Description



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

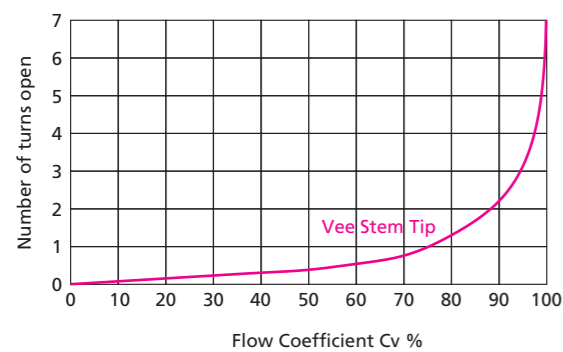
Gauge Valves

Pressures to 30,000 psi (2068 bar)

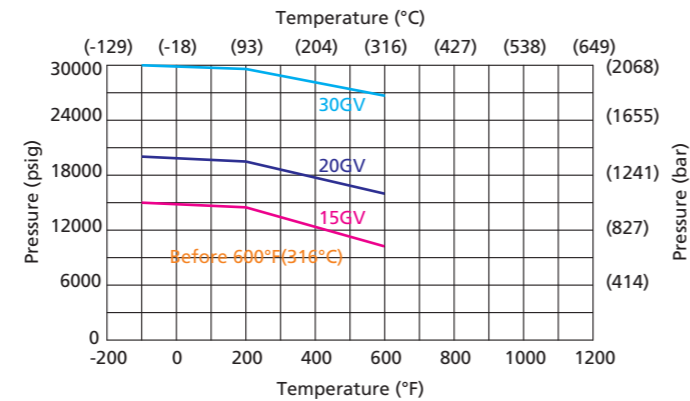
Features

- One inlet, three outlet ports.
- Metal-to-metal seating achieves ideal shutoff, longer stem/seat service lifetime for abrasive flow, excellent corrosion resistance and greater durability for repeated on/off cycles.
- PTFE is the standard packing material, RPTFE glass also available.
- The material of packing gland and upper stem have been selected to achieve reduced handle torque and extended thread cycle life.
- The location of packing is under the thread of valve stem.
- The locking device of packing gland is reliable.

Flow Data at 100°F (38°C)



Pressure & Temperature



Technical Data

Series	Connection Type	Orifice in. (mm)	Rated CV	Pressure @ Room Temperature psig (bar)
15GV	FH6	0.125 (3.18)	0.23	15,000 (1034)
20GV	2FH6	0.125 (3.18)	0.23	20,000 (1379)
	2FH9	0.125 (3.18)	0.23	20,000 (1379)
30GV	6FH6	0.125 (3.18)	0.33	30,000 (2068)
	6FH9	0.125 (3.18)	0.33	30,000 (2068)

Note:

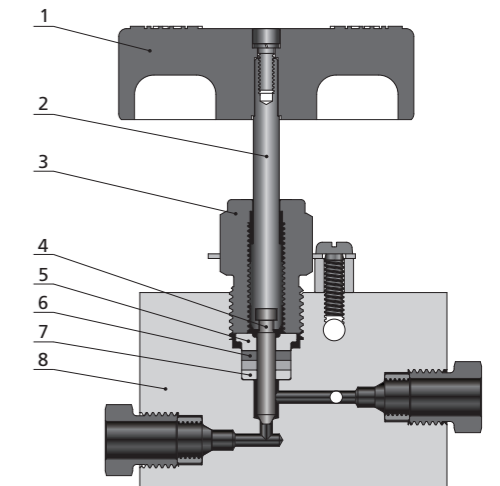
- Extreme Temperatures**
PTFE is the standard packing material for FITOK Needle Valve; RPTFE glass also available.
Normal Needle Valve with PTFE packing can be operated to 450°F (232°C).
Normal Needle Valve with RPTFE glass packing can be operated to 600°F (316°C).
- A variety of end connections available on request. For connections not shown above, please contact the authorized representative or FITOK Group.

Standard Materials of Construction

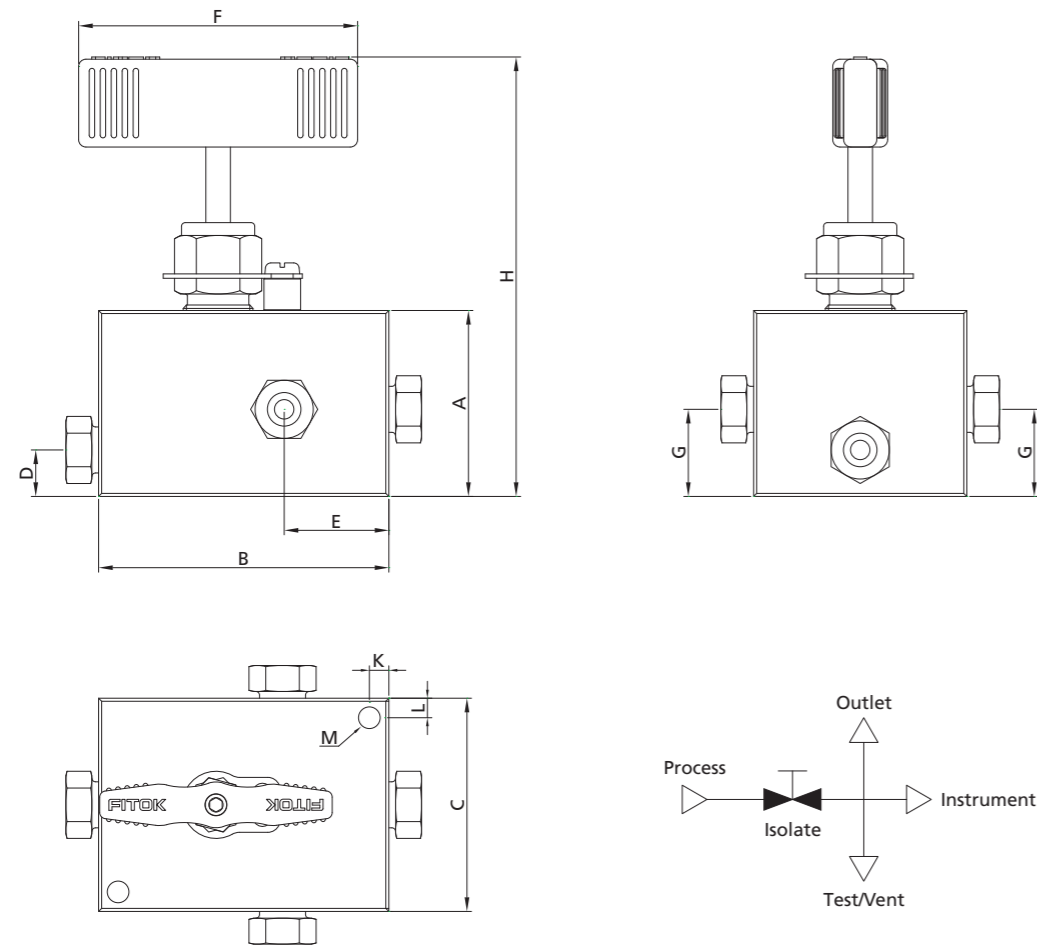
Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Upper stem	316 SS/A479
3	Packing Gland	C63000/B150
4	Lower Stem	17-4PH/A564
5	Packing Ring	C63000/B150
6	Packing	PTFE/RPTFE
7	Packing washer	17-4PH/A564
8	Body	316 SS/A479
	Lubricant	Molybdenum disulfide

Note:

- Special materials available on request. For the materials not shown above, please contact the authorized representative or FITOK Group.



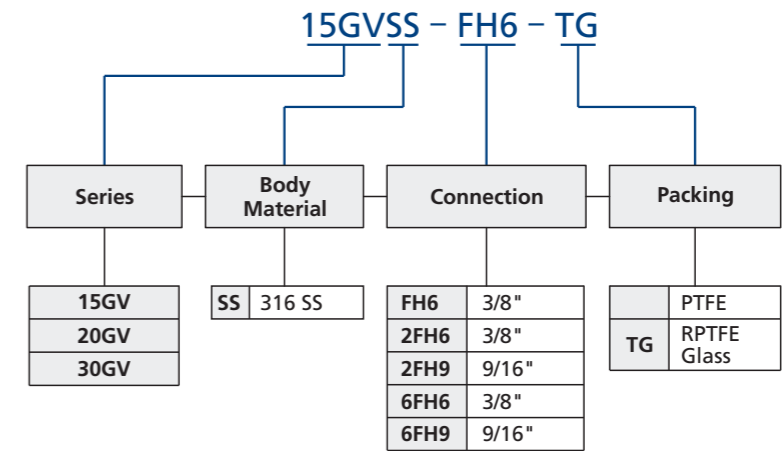
Dimensions



Dimensions													
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	E	F	G	H	K	L	M
			in. (mm)										
15GVSS-FH6	FH6	0.125 (3.18)	2.00 (50.8)	3.12 (79.3)	2.00 (50.8)	0.50 (12.7)	1.13 (28.6)	3.00 (76.2)	0.94 (23.8)	4.68 (118.9)	0.25 (6.4)	0.25 (6.4)	0.28 (7.1)
20GVSS-2FH6	2FH6	0.125 (3.18)	2.00 (50.8)	3.12 (79.3)	2.00 (50.8)	0.50 (12.7)	1.13 (28.6)	3.00 (76.2)	0.94 (23.8)	4.68 (118.9)	0.38 (9.7)	0.25 (6.4)	0.28 (7.1)
20GVSS-2FH9	2FH9	0.125 (3.18)	2.00 (50.8)	3.88 (98.6)	2.75 (69.9)	0.66 (16.8)	1.38 (34.9)	3.00 (76.2)	0.94 (23.8)	4.68 (118.9)	0.38 (9.7)	0.38 (9.7)	0.28 (7.1)
30GVSS-6FH6	6FH6	0.125 (3.18)	2.00 (50.8)	3.12 (79.3)	2.00 (50.8)	0.50 (12.7)	1.13 (28.6)	3.00 (76.2)	0.94 (23.8)	4.68 (118.9)	0.38 (9.7)	0.38 (9.7)	0.28 (7.1)
30GVSS-6FH9	6FH9	0.125 (3.18)	2.00 (50.8)	3.88 (98.6)	2.75 (69.9)	0.66 (16.8)	1.38 (34.9)	3.00 (76.2)	0.94 (23.8)	4.68 (118.9)	0.38 (9.7)	0.38 (9.7)	0.28 (7.1)

- Note:
1. M is the panel mounting drill size.
 2. H is the dimension of stem in closed position.
 3. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

Part Number Description



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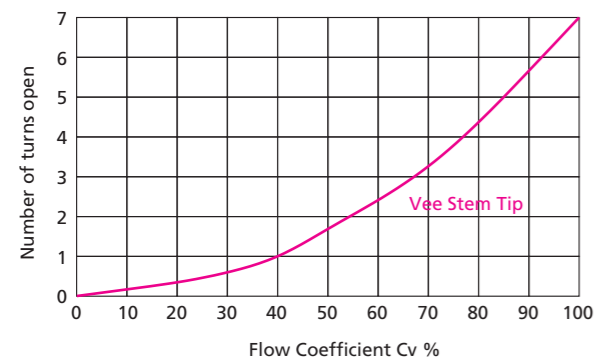
Block & Bleed Needle Valves

Pressures to 20,000 psi (1379 bar)

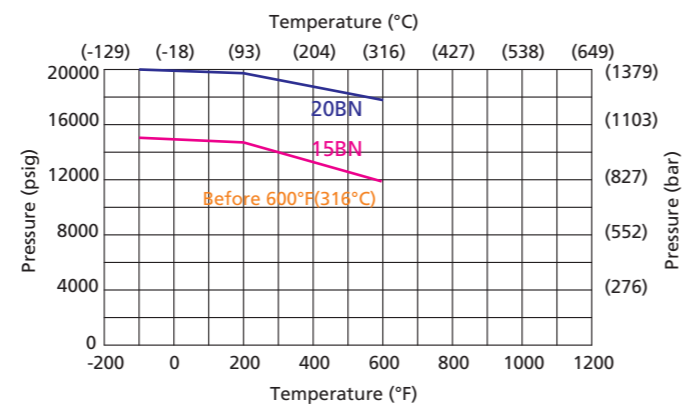
Features

- Compact design offers advantages over configurations with multiple valves and fittings.
- Minimal space needed for installation and operation.
- Cost savings from fewer components required.
- Reduced potential for leakage.
- Metal-to-metal seating achieves ideal shutoff, longer stem/seat service lifetime for abrasive flow, excellent corrosion resistance and greater durability for repeated on/off cycles.
- The material of packing gland and upper stem have been selected to achieve reduced handle torque and extended thread cycle life.
- The location of packing is under the thread of valve stem.
- The locking device of packing gland is reliable.

Flow Data at 100°F (38°C)



Pressure & Temperature



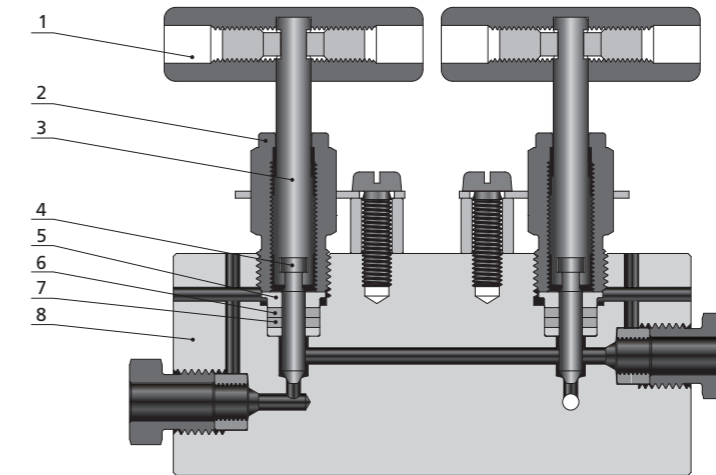
Technical Data

Series	Connection Type	Orifice in. (mm)	Rated CV	Pressure @ Room Temperature psig (bar)
15BN	FNS4	0.093 (2.36)	0.20	15,000 (1034)
	FNS6	0.093 (2.36)	0.20	15,000 (1034)
20BN	2FH4	0.093 (2.36)	0.20	20,000 (1379)
	2FH6	0.093 (2.36)	0.20	20,000 (1379)

Note:

- Extreme Temperatures
 - PTFE is the standard packing material for FITOK Needle Valve; RPTFE glass also available.
 - Normal Needle Valve with PTFE packing can be operated to 450°F (232°C).
 - Normal Needle Valve with RPTFE glass packing can be operated to 600°F (316°C).
- A variety of end connections available on request. For connections not shown above, please contact the authorized representative or FITOK Group.

Standard Materials of Construction

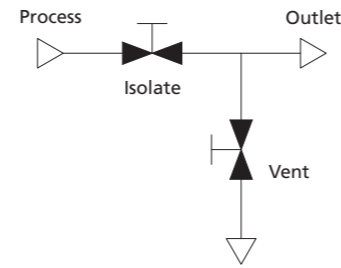
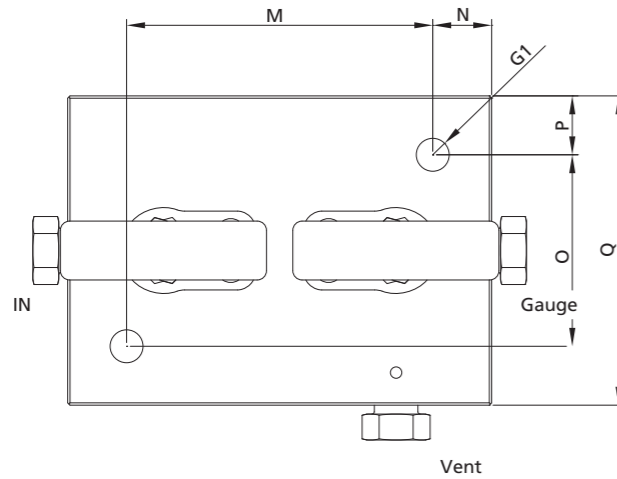
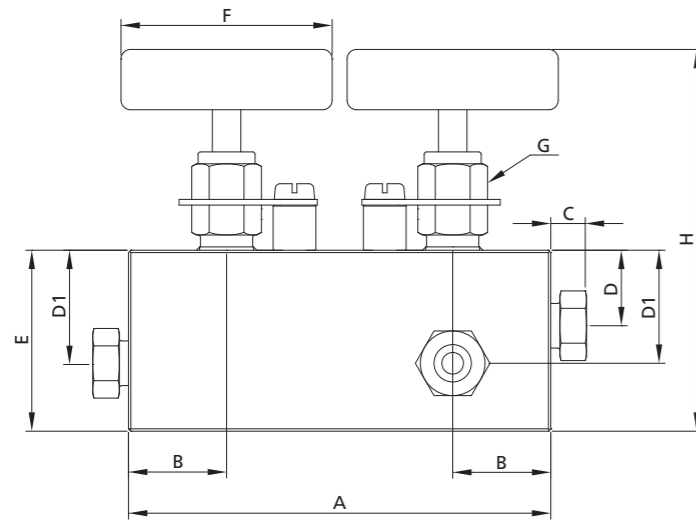


Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Packing Gland	C63000/B150
3	Upper stem	316 SS/A479
4	Lower Stem	17-4PH/A564
5	Packing Ring	C63000/B150
6	Packing	PTFE/RPTFE
7	Packing washer	17-4PH/A564
8	Body	316 SS/A479
	Lubricant	Molybdenum disulfide

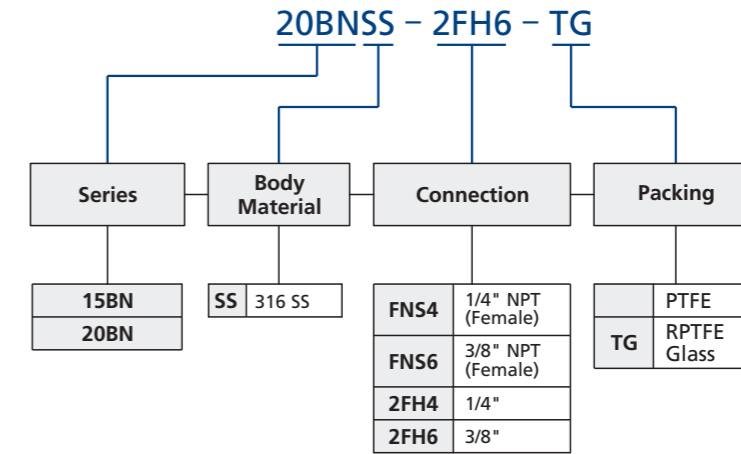
Note:

- Special materials available on request. For the materials not shown above, please contact the authorized representative or FITOK Group.

Dimensions



Part Number Description



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

Dimensions																	
Ordering Number	Connection Type (Inlet)	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	O	P	Q
			in. (mm)														
15BNSS-FNS4	FNS4	0.094 (2.4)	3.78 (96.0)	1.00 (25.4)	0.81 (20.6)	1.08 (27.5)	1.50 (38.1)	1.75 (44.5)	0.50 (12.7)	0.28 (7.1)	3.26 (82.7)	2.74 (69.5)	0.37 (9.5)	1.25 (31.8)	0.37 (9.5)	2.00 (50.8)	
15BNSS-FNS6	FNS6	0.094 (2.4)	3.78 (96.0)	1.00 (25.4)	0.81 (20.6)	1.08 (27.5)	1.50 (38.1)	1.75 (44.5)	0.50 (12.7)	0.28 (7.1)	3.26 (82.7)	3.50 (89.1)	0.37 (9.5)	1.25 (31.8)	0.37 (9.5)	2.00 (50.8)	
20BNSS-2FH4	2FH4	0.094 (2.4)	3.5 (88.9)	0.81 (20.6)	0.38 (9.7)	0.81 (20.6)	1.08 (27.5)	1.50 (38.1)	1.75 (44.5)	0.50 (12.7)	0.28 (7.1)	3.26 (82.7)	2.74 (69.5)	0.37 (9.5)	1.25 (31.8)	0.37 (9.5)	2.00 (50.8)
20BNSS-2FH6	2FH6	0.094 (2.4)	3.88 (98.5)	1.00 (25.4)	0.44 (11.1)	0.81 (20.6)	1.08 (27.5)	1.50 (38.1)	1.75 (44.5)	0.50 (12.7)	0.28 (7.1)	3.26 (82.7)	3.50 (89.1)	0.37 (9.5)	1.25 (31.8)	0.37 (9.5)	2.00 (50.8)

Note:
 1. G is the drill dimension of packing gland mounting hole.
 1. G1 is the panel mounting drill size.
 2. H is the dimension of stem in closed position.
 3. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

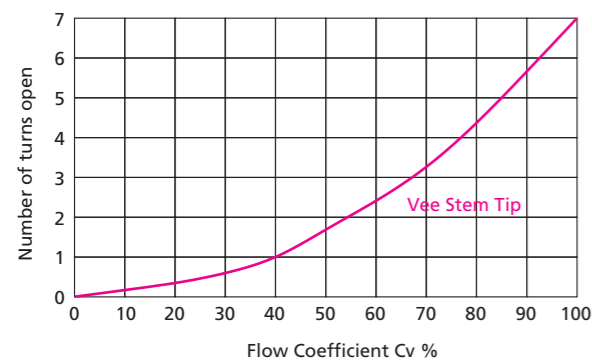
Double Block & Bleed Needle Valves

Pressures to 20,000 psi (1379 bar)

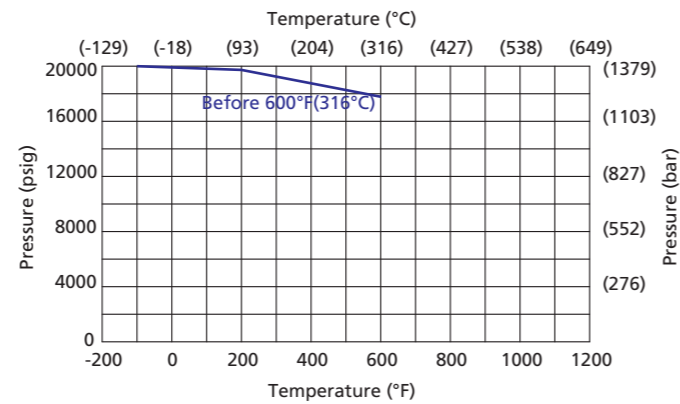
Features

- Compact design provides large valve performance in a small package.
- Reduced potential for leakage.
- Metal-to-metal seating achieves ideal shutoff, longer stem/seat service lifetime for abrasive flow, excellent corrosion resistance and greater durability for repeated on/off cycles.
- The material of packing gland and upper stem have been selected to achieve reduced handle torque and extended thread cycle life.
- The location of packing is under the thread of valve stem.
- The locking device of packing gland is reliable.
- Wide selection of tube and pipe end fittings available.

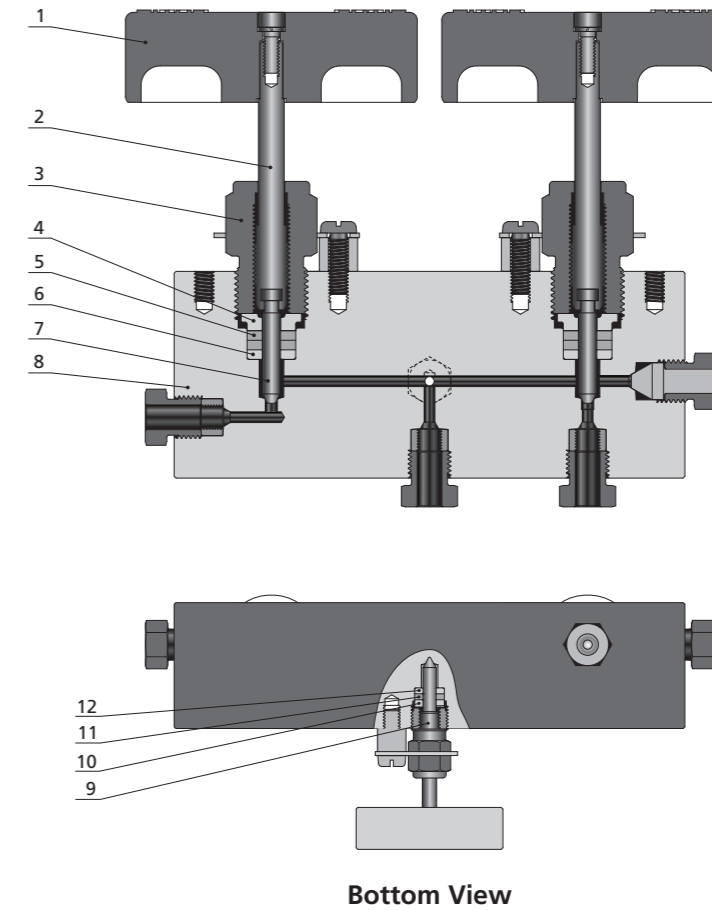
Flow Data at 100°F (38°C)



Pressure & Temperature



Standard Materials of Construction



Technical Data

Series	Connection Type	Vent Connection	Orifice in. (mm)	Rated Cv	Pressure @ Room Temperature psig (bar)
20DBN	2FH4	2FH4	0.093 (2.36)	0.10	20,000 (1379)
	2FH6	2FH4	0.093 (2.36)	0.27	20,000 (1379)
	2FH9	2FH4	0.093 (2.36)	0.27	20,000 (1379)
	6FH9	2FH4	0.093 (2.36)	0.27	20,000 (1379)

Note:

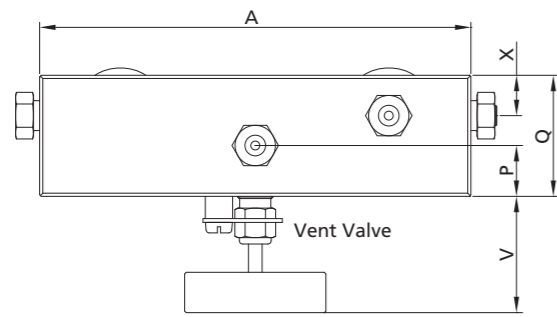
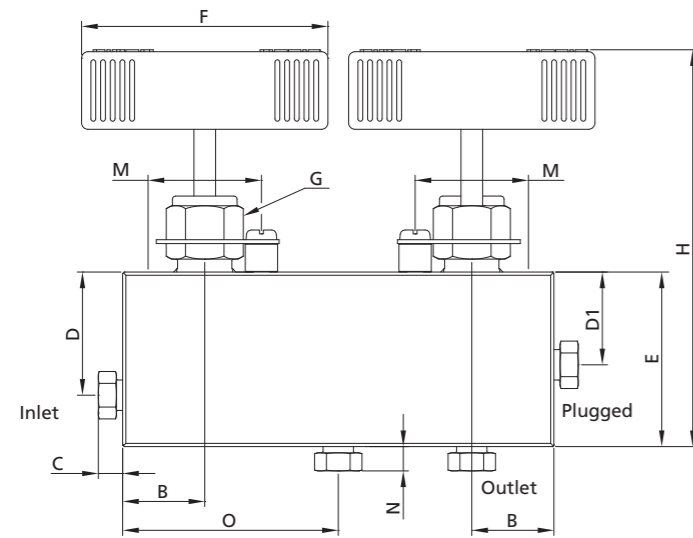
- Extreme Temperatures**
PTFE is the standard packing material for FITOK Needle Valve; RPTFE glass also available.
Normal Needle Valve with PTFE packing can be operated to 450°F (232°C).
Normal Needle Valve with RPTFE glass packing can be operated to 600°F (316°C).
- A variety of end connections available on request. For dimensions not shown above, please contact the authorized representative or FITOK Group.

Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Upper stem	316 SS/A479
3	Packing Gland	C63000/B150
4	Lower Stem	17-4PH/A564
5	Packing Ring	C63000/B150
6	Packing	PTFE/RPTFE
7	Packing washer	17-4PH/A564
8	Body	316 SS/A479
9	Vent valve stem	17-4PH/A564
10	Vent valve Ring	C63000/B150
11	Vent valve Packing	PTFE/RPTFE
12	Vent valve Packing washer	17-4PH/A564
	Lubricant	Molybdenum disulfide

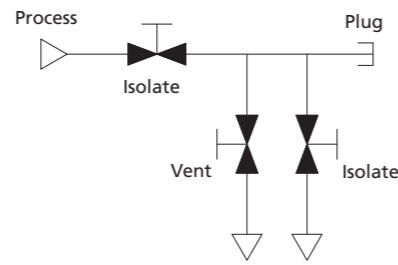
Note:

- 1. Special materials available on request. For the materials not shown above, please contact the authorized representative or FITOK Group.

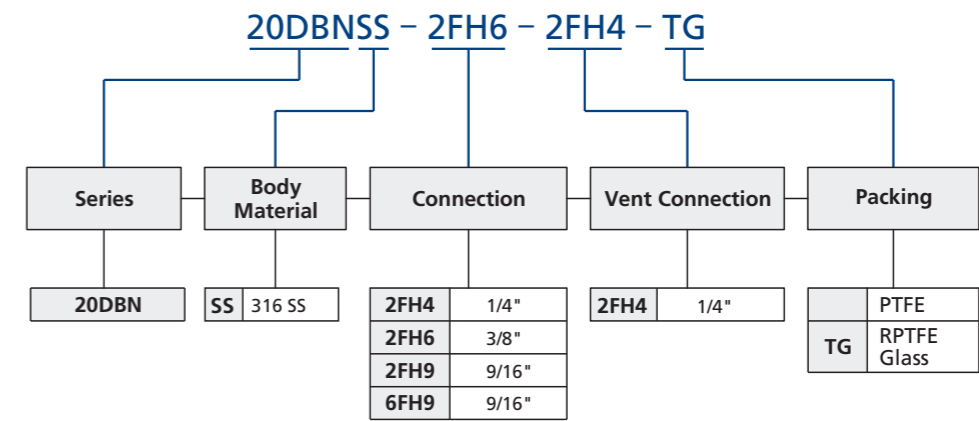
Dimensions



Bottom View



Part Number Description



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.

Dimensions																		
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	H	M	N	O	P	Q	V	X
			in. (mm)															
20DBNSS-2FH4-2FH4	2FH4	0.094 (2.4)	5.25 (133.4)	1.00 (25.4)	0.38 (9.65)	1.50 (38.1)	1.13 (28.7)	2.13 (54.1)	3.00 (76.2)	0.81 (20.6)	4.65 (118.1)	0.69 (17.5)	0.50 (12.7)	2.62 (66.7)	0.63 (16.0)	1.50 (38.1)	1.43 (36.3)	0.50 (12.7)
20DBNSS-2FH6-2FH4	2FH6	0.094 (2.4)	5.25 (133.4)	1.00 (25.4)	0.44 (11.2)	1.50 (38.1)	1.13 (28.7)	2.13 (54.1)	3.00 (76.2)	0.81 (20.6)	4.65 (118.1)	0.69 (17.5)	0.50 (12.7)	2.62 (66.7)	0.63 (16.0)	1.50 (38.1)	1.43 (36.3)	0.50 (12.7)
20DBNSS-2FH9-2FH4	2FH9	0.094 (2.4)	5.88 (149.4)	1.31 (33.3)	0.55 (14.0)	1.50 (38.1)	1.13 (28.7)	3.00 (76.2)	3.00 (76.2)	0.81 (20.6)	5.53 (140.5)	0.69 (17.5)	0.50 (12.7)	2.94 (74.7)	0.63 (16.0)	1.75 (44.5)	1.43 (36.3)	0.75 (19.1)
20DBNSS-6FH9-2FH4	6FH9	0.094 (2.4)	5.88 (149.4)	1.31 (33.3)	0.95 (24.1)	1.50 (38.1)	1.13 (28.7)	3.00 (76.2)	3.00 (76.2)	0.81 (20.6)	5.53 (140.5)	0.69 (17.5)	0.50 (12.7)	2.94 (74.7)	0.63 (16.0)	1.75 (44.5)	1.43 (36.3)	0.75 (19.1)

Note:
 1. G is the drill dimension of packing gland mounting hole.
 1. G1 is the panel mounting drill size.
 2. H is the dimension of stem in closed position.
 3. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

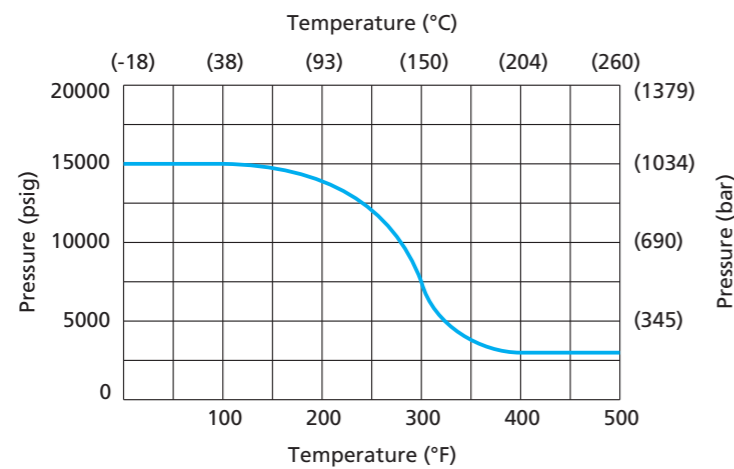
Double Block & Bleed Ball Valves

Pressures to 15,000 psi (1034 bar)

Features

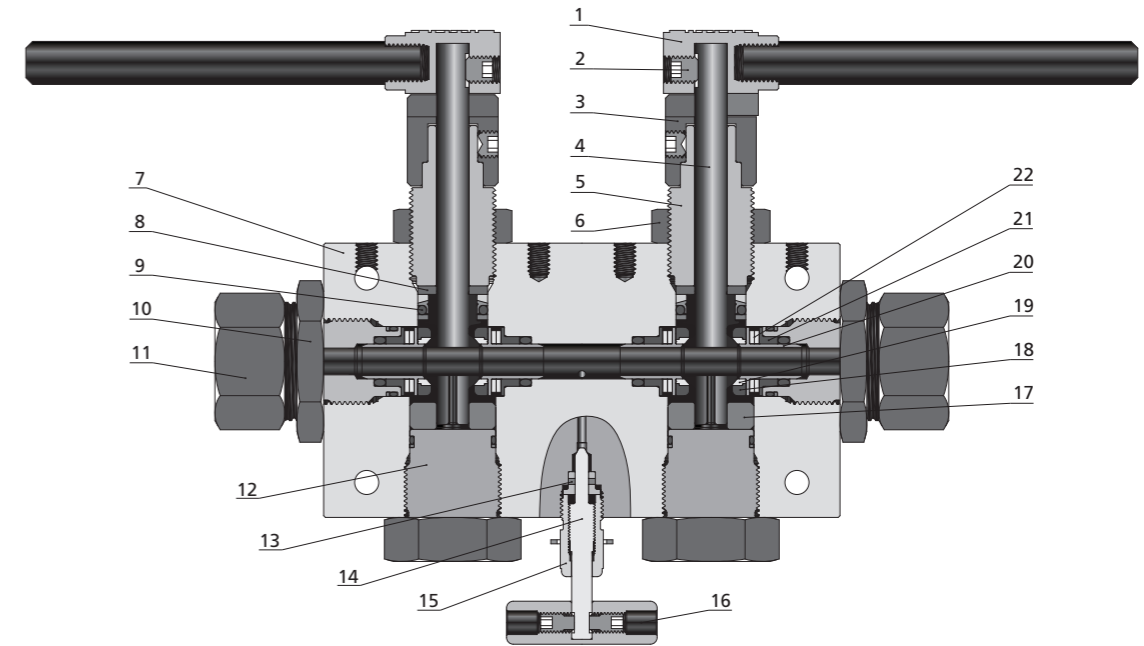
- ⦿ One-piece, trunnion mounted style, ideal for severe duty applications.
- ⦿ Carbon filled PEEK seats offer excellent resistance to chemicals, heat, and wear/abrasion.
- ⦿ Vee-stem vent valve.
- ⦿ Full-port flow path minimizes pressure drop.
- ⦿ 316 cold worked stainless steel construction.
- ⦿ Fluorocarbon FKM O-rings for operation from 0°F to 400°F (-17.8°C to 204°C).
- ⦿ Wide selection of O-rings available.
- ⦿ Wide selection of tube and pipe end fittings available.
- ⦿ Quarter turn from open to close with positive stop.

Pressure & Temperature Curve



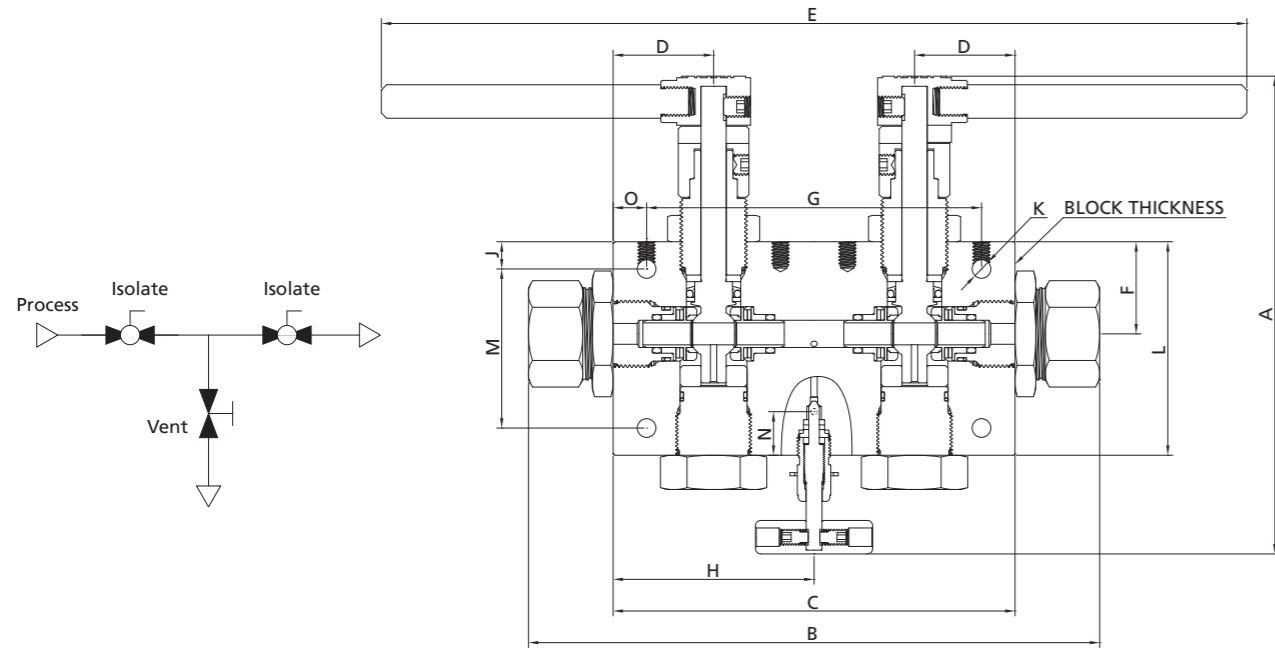
NOTE: Ball valves are not recommended for critical gas applications such as Hydrogen, Helium or other small molecular gases.

Standard Materials of Construction



Item	Component	Valve Material
1	Handle	Stainless Steel
2	Set Screw	Stainless Steel
3	Stopping Device	316 SS/A276
4	Ball Stem	316 SS/A479
5	Packing Gland	316 SS/A479
6	Locking Piece	316 SS/A276
7	Valve Body	316 SS/A479
8	Thrust Washer	C63000/B150
9	Combination Seal	Fluorocarbon FKM
10	Lock Nut	316 SS/A276
11	Seat Gland	316 SS/A479
12	Bottom Gland	316 SS/A479
13	Vent Valve Packing	PTFE
14	Vent Valve Stem	17-4PH/A564
15	Vent Valve Packing Gland	C63000/B150
16	Vent Valve Handle	Stainless Steel
17	Bearing	PEEK
18	Seat Retainer	S17400/A564
19	Seat	Carbon Filled PEEK
20	Support	316 SS/A479
21	Belleville Backup	S17400/A564
22	Belleville Washers	17-7PH/A693
	Lubricant	Molybdenum Disulfide/Fluorinated-based

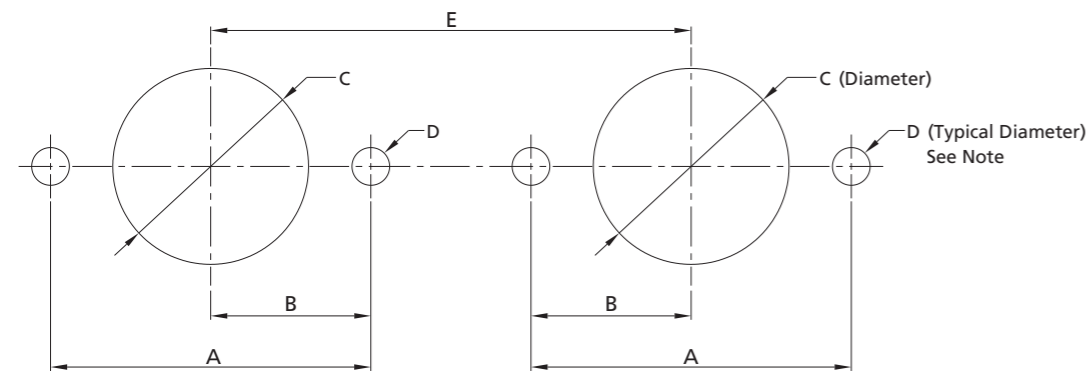
Dimensions



A	B	C	D	E	F	G	H	J	K	L	M	N ^①	O	Block Thickness
in. (mm)														
7.14 (181.4)	8.81 (223.8)	6 (152.4)	1.5 (38.1)	12.94 (328.7)	1.38 (34.9)	5 (127)	3 (76.2)	0.41 (10.3)	0.28 (7.1)	3.19 (81)	2.38 (60.4)	0.65 (16.5)	0.5 (12.7)	1.75 (44.45)

① N: Vent connection on back side.

Panel Mounting Dimensions



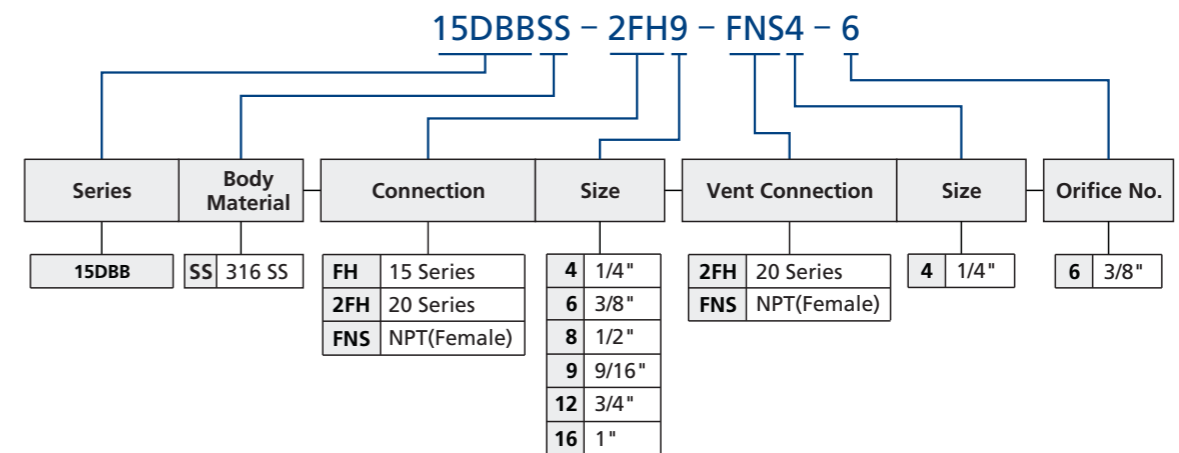
All dimensions are for reference only and are subject to change.

A	B	C	D	E
in. (mm)	in. (mm)	in. (mm)	in. (mm)	in. (mm)
2 (50.8)	1 (25.4)	1.5 (38.1)	0.28 (7.1)	3 (76.2)

Note: Body mounting 1/4-20 thread

Part Number Description

Series	Connection	Vent Connection	Orifice No.	Orifice Size in. (mm)	Rated Cv	Catalog No.	Pressure/Temperature Rating psig (bar) @ Room Temperature
15DBB	FH8	FNS4	6	0.33 (8.3)	2.3	15DBBSS-FH8-FNS4-6	15,000 (1034)
	2FH4	2FH4		0.20 (5.2)	0.9	15DBBSS-2FH4-2FH4-6	
	2FH6	2FH4		0.30 (7.9)	2.1	15DBBSS-2FH6-2FH4-6	
	2FH9	2FH4		0.33 (8.3)	2.3	15DBBSS-2FH9-2FH4-6	
	2FH9	FNS4		0.33 (8.3)	2.3	15DBBSS-2FH9-FNS4-6	
	2FH12	2FH4		0.33 (8.3)	2.3	15DBBSS-2FH12-2FH4-6	
	2FH16	FNS4		0.33 (8.3)	2.3	15DBBSS-2FH16-FNS4-6	
	FNS4	FNS4		0.33 (8.3)	2.3	15DBBSS-FNS4-FNS4-6	
	FNS6	FNS4		0.33 (8.3)	2.3	15DBBSS-FNS6-FNS4-6	
FNS8	FNS4	0.33 (8.3)	2.3	15DBBSS-FNS8-FNS4-6			



Options: O-ring
 Fluorocarbon FKM is standard. For other materials, add a material code to the valve ordering number.
 Example: 15DBBSS-2FH9-FNS4-6-N

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

Note: "Part Number Description" is used for composition rules of FITOK product model, not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK group or authorized agent.