

High Pressure Needle Valve

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

15N Series, 15,000 psi (1034 bar)

20N Series, 20,000 psi (1379 bar)

30N Series, 30,000 psi (2068 bar)

60N Series, 60,000 psi (4137 bar)



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Valves and Fittings

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Part Number Description

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10N Series

10,000 psi (690 bar)

Features

- ⦿ Non-rotating stem and bar stock body design.
- ⦿ Easy to assemble and replace packing.
- ⦿ 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, Graphite and Extend stuffing box valve with Graphite also available.
- ⦿ The material of packing gland and upper stem have been selected to achieve reduced handle torque and extended thread cycle life.
- ⦿ The material of valve body is 316 SS, the material of lower stem is 17-4PH SS.
- ⦿ Options for Vee or Regulating stem tips.
- ⦿ The location of packing is under the thread of valve stem.
- ⦿ The locking device of packing gland is reliable.
- ⦿ Five flow patterns are available.

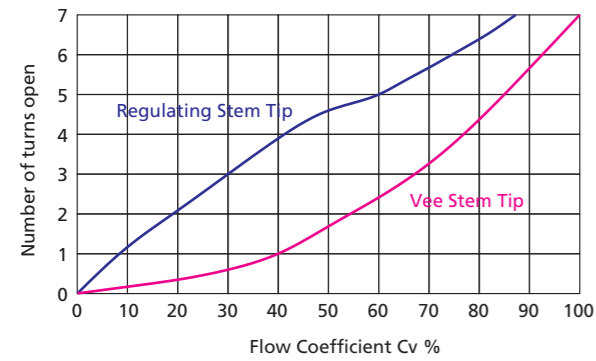
Technical Data

Connector size	Connection Type	Orifice in. (mm)	Cv	Pressure @ Room Temperature psig (bar)	Operating Temperature
9/16" Tube	2FH9	0.359 (9.12)	1.75	10,000 (690)	-423°F~1200°F (-252°C~649°C)
3/4" Tube	2FH12	0.516 (13.10)	2.80	10,000 (690)	
1" Tube	2FH16	0.688 (17.48)	5.20	10,000 (690)	
3/4 NPT	FNS12	0.438 (11.13)	2.50	10,000 (690)	-325°F~400°F (-198°C~204°C)
3/4 BSPT	FRT12				
1 NPT	FNS16	0.562 (14.27)	4.40	10,000 (690)	
1 BSPT	FRT16				

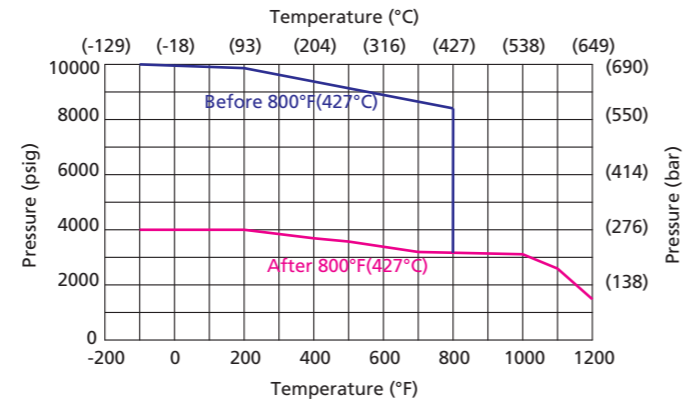
Notes:

- ⦿ The value of Cv shown are for 2-way straight valve pattern.
The value of Cv for 2-way angle pattern will be increase about 50% (Base on water).
- ⦿ Extreme Temperatures
PTFE is the standard packing material for FITOK Needle Valve; RPTFE glass; Graphite (used by Tube connectors only) and Extending stuffing box valve with Graphite (used by Tube connectors only) also available.
Normal Needle Valve with PTFE packing can be operated from -100°F (-73°C) to 450°F (232°C).
Normal Needle Valve with RPTFE glass packing can be operated from -100°F (-73°C) to 600°F (316°C).
Normal Needle Valve with Graphite packing can be operated from 0°F (-17.8°C) to 800°F (427°C).
Extending stuffing box Valve with of Graphite packing can be operated from 100°F (-73°C) to 1200°F (649°C).

Flow Data at 100°F (38°C)

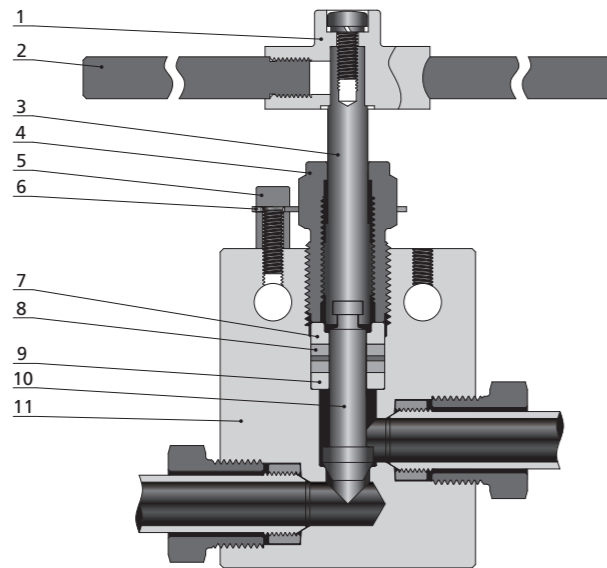


Pressure & Temperature



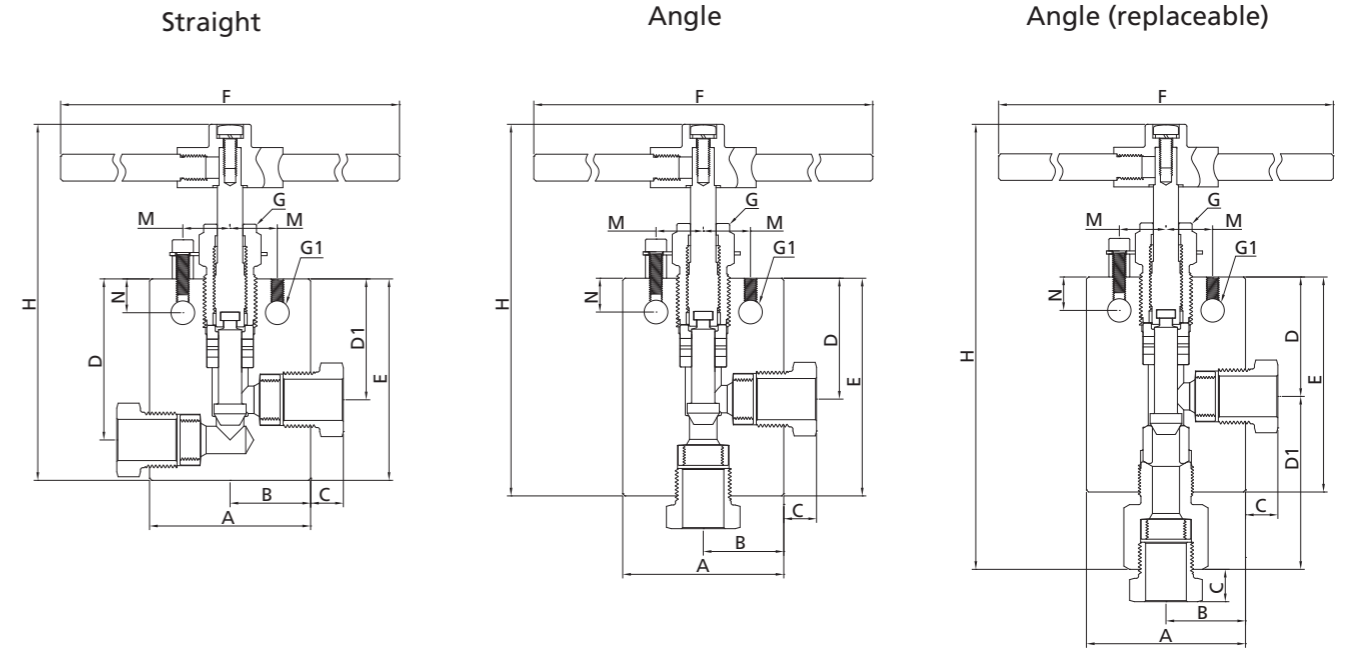
When exceeding 800°F (427°C), use the pink curve as its cold-worked rating for future operating of the components.

Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Handle Head	Stainless steel
2	Handle	Stainless steel
3	Upper Stem	316 SS/A479
4	Packing Gland	C63000/B150
5	Locking Screw	Stainless steel
6	Locking Plate	304 SS/A240
7	Packing Ring	C63000/B150
8	Packing	PTFE/RPTFE/GRAPHITE/Extend stuffing box valve with of Graphite
9	Packing washer	17-4PH/A564
10	Lower Stem	17-4PH/A564
11	Body	316 SS/A479
	Lubricant	Molybdenum disulfide

Dimensions (Tube Connectors)

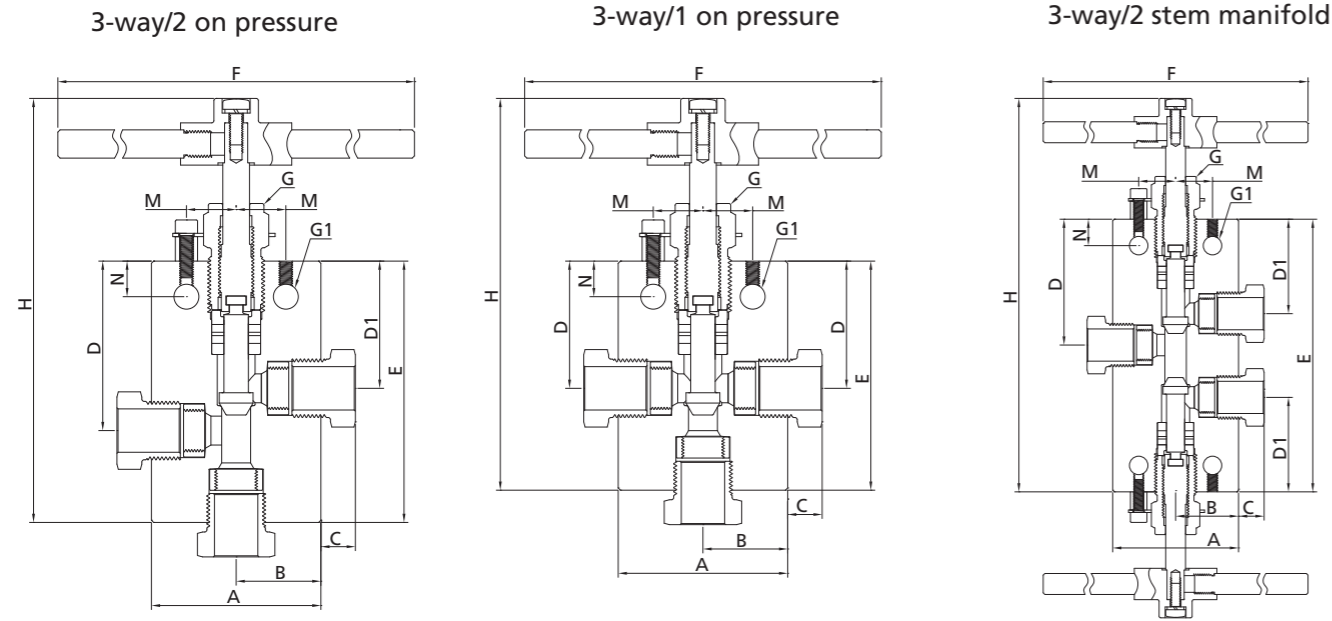


Dimensions (Straight)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FH9-1	2FH9	0.359 (9.12)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	2.38 (60.5)	1.75 (44.5)	2.88 (73.2)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	5.93 (150.9)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)
10NSS-FH12-1	2FH12	0.516 (13.11)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	3.00 (76.2)	2.25 (57.2)	3.75 (95.3)	10.25 (260.4)	1.12 (28.5)	0.44 (11.2)	7.00 (177.8)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)
10NSS-FH16-1	2FH16	0.688 (17.48)	4.12 (104.7)	2.06 (52.3)	0.63 (16.0)	3.75 (95.3)	2.81 (71.4)	4.63 (117.6)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.00 (228.8)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)

Dimensions (Angle)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FH9-2	2FH9	0.359 (9.12)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)	/	3.38 (85.9)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.43 (163.6)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)
10NSS-FH12-2	2FH12	0.516 (13.11)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	2.25 (57.2)	/	4.25 (107.9)	10.25 (260.4)	1.12 (28.5)	0.44 (11.2)	7.50 (190.5)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)
10NSS-FH16-2	2FH16	0.688 (17.48)	4.12 (104.7)	2.06 (52.3)	0.63 (16.0)	2.81 (71.4)	/	5.12 (130.1)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.00 (228.8)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)

Dimensions (Angle/replaceable seat)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FH9-3	2FH9	0.359 (9.12)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)	2.50 (63.5)	3.38 (85.9)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	7.34 (186.7)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)
10NSS-FH12-3	2FH12	0.516 (13.11)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	2.25 (57.2)	3.44 (87.4)	4.25 (107.9)	10.25 (260.4)	1.12 (28.5)	0.44 (11.2)	9.00 (228.6)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)
10NSS-FH16-3	2FH16	0.688 (17.48)	4.12 (104.7)	2.06 (52.3)	0.63 (16.0)	2.69 (68.3)	4.38 (111.1)	5.25 (133.3)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	11.00 (279.6)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)

Dimensions (Tube Connectors)

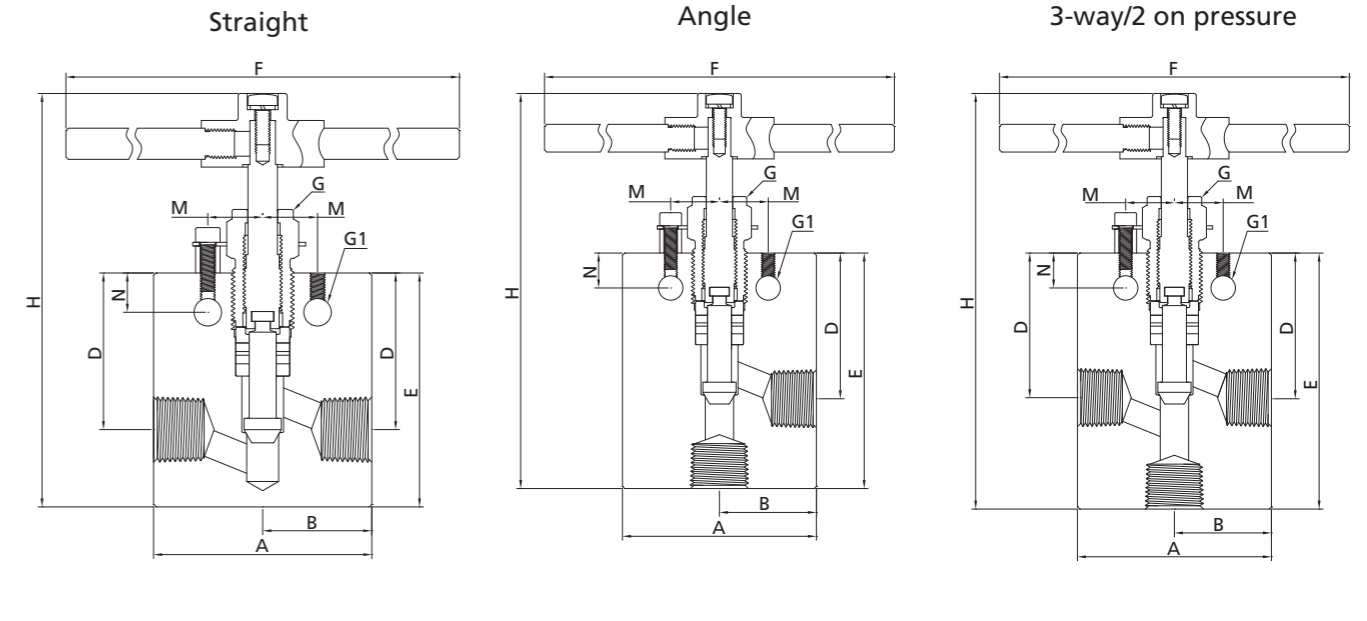


Dimensions (3-way/2 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FH9-4	2FH9	0.359 (9.12)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	2.38 (60.5)	1.75 (44.5)	3.63 (92.1)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.52 (165.6)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)
10NSS-FH12-4	2FH12	0.516 (13.11)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	3.00 (76.2)	2.25 (57.2)	4.63 (117.5)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	7.88 (200.0)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)
10NSS-FH16-4	2FH16	0.688 (17.48)	4.12 (104.7)	2.06 (52.3)	0.63 (16.0)	3.75 (95.3)	2.81 (71.4)	5.88 (149.4)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.75 (247.9)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)

Dimensions (3-way/1 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FH9-5	2FH9	0.359 (9.12)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)	/	3.38 (85.9)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.31 (160.6)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)
10NSS-FH12-5	2FH12	0.516 (13.11)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	2.25 (57.2)	/	4.25 (107.9)	10.25 (260.4)	1.12 (28.5)	0.44 (11.2)	7.50 (190.5)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)
10NSS-FH16-5	2FH16	0.688 (17.48)	4.12 (104.7)	2.06 (52.3)	0.63 (16.0)	2.81 (71.4)	/	5.12 (130.1)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.09 (231.1)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)

Dimensions (3-way/2 stem manifold)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FH9-6	2FH9	0.359 (9.12)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	2.56 (65.1)	1.75 (44.5)	5.13 (130.2)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	8.13 (206.5)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)
10NSS-FH12-6	2FH12	0.516 (13.11)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	3.25 (82.6)	2.25 (57.2)	6.50 (165.1)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	9.75 (247.7)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)
10NSS-FH16-6	2FH16	0.688 (17.48)	4.12 (104.7)	2.06 (52.3)	0.63 (16.0)	3.75 (95.3)	2.81 (71.4)	7.50 (190.5)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	12.18 (309.4)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)

Dimensions (Pipe Connectors)



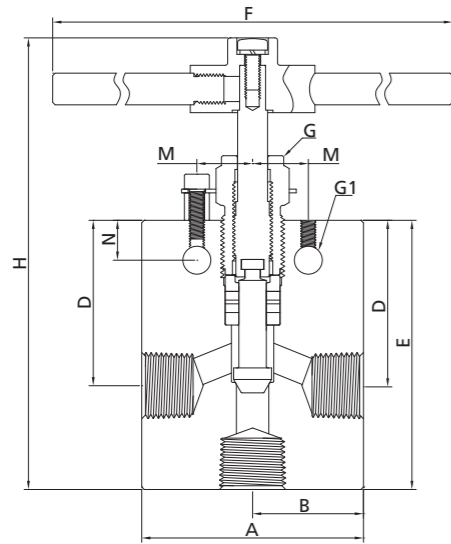
Dimensions (Straight)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FNS12-1	FNS12	0.437 (11.10)	3.50 (88.9)	1.75 (44.5)	/	2.63 (66.8)	/	3.75 (95.3)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	7.00 (177.8)	0.88 (22.4)	0.63 (16.0)	1.75 (44.5)
10NSS-FRT12-1	FRT12														
10NSS-FNS16-1	FNS16	0.562 (14.27)	4.12 (104.7)	2.06 (52.3)	/	3.31 (84.1)	/	4.62 (117.4)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.00 (228.6)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)
10NSS-FRT16-1	FRT16														

Dimensions (Angle)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FNS12-2	FNS12	0.437 (11.10)	3.50 (88.9)	1.75 (44.5)	/	2.63 (66.8)	/	4.25 (107.9)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	7.50 (190.5)	0.88 (22.4)	0.63 (16.0)	1.75 (44.5)
10NSS-FRT12-2	FRT12														
10NSS-FNS16-2	FNS16	0.562 (14.27)	4.12 (104.7)	2.06 (52.3)	/	3.31 (84.1)	/	5.12 (130.1)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.00 (228.6)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)
10NSS-FRT16-2	FRT16														

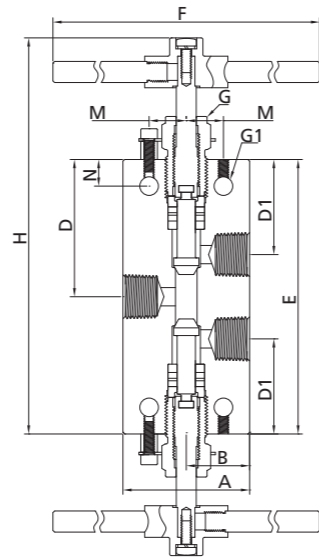
Dimensions (3-way/2 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FNS12-4	FNS12	0.437 (11.10)	3.50 (88.9)	1.75 (44.5)	/	2.65 (67.3)	/	4.62 (117.4)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	7.88 (200.2)	0.88 (22.4)	0.63 (16.0)	1.75 (44.5)
10NSS-FRT12-4	FRT12														
10NSS-FNS16-4	FNS16	0.562 (14.27)	4.12 (104.7)	2.06 (52.3)	/	3.31 (84.1)	/	5.88 (149.4)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.75 (247.7)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)
10NSS-FRT16-4	FRT16														

Dimensions (Pipe Connectors)

3-way/1 on pressure



3-way/2 stem manifold



Dimensions (3-way/1 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FNS12-5	FNS12	0.437 (11.10)	3.50 (88.9)	1.75 (44.5)	/	2.65 (67.3)	/	4.25 (107.9)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	7.50 (190.5)	0.88 (22.4)	0.63 (16.0)	1.75 (44.5)
10NSS-FRT12-5	FRT12														
10NSS-FNS16-5	FNS16	0.562 (14.27)	4.12 (104.7)	2.06 (52.3)	/	3.31 (84.1)	/	5.12 (130.1)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.09 (230.9)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)
10NSS-FRT16-5	FRT16														

Dimensions (3-way/2 stem manifold)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
10NSS-FNS12-6	FNS12	0.437 (11.10)	3.50 (88.9)	1.75 (44.5)	/	3.25 (82.6)	2.25 (57.2)	6.50 (165.1)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	9.75 (247.7)	0.88 (22.4)	0.63 (16.0)	1.75 (44.5)
10NSS-FRT12-6	FRT12														
10NSS-FNS16-6	FNS16	0.562 (14.27)	4.12 (104.7)	2.06 (52.3)	/	3.75 (95.3)	2.81 (71.42)	7.50 (190.5)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	11.47 (291.4)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)
10NSS-FRT16-6	FRT16														

- Notes:**
- G is the drill dimension of packing gland mounting hole.
 - G1 is the dimension of bracket mounting hole.
 - panel mounting drill size: 0.25" all valves.
 - H is the dimension of stem in closed position.
 - All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

15N Series 15,000 psi (1034 bar)

Features

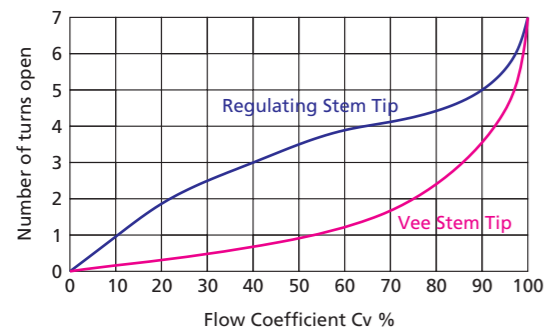
- Non-rotating stem and bar stock body design.
- Easy to assemble and replace packing.
- Metal-to-metal seating achieves ideal shutoff, longer stem/seat service lifetime for abrasive flow, excellent corrosion resistance and greater durability for repeated on/off cycles.
- PTFE is the standard packing material, RPTFE glass and Graphite also available.
- The material of packing gland and upper stem have been selected to achieve reduced handle torque and extended thread cycle life.
- The material of valve body is 316 SS, the material of lower stem is 17-4PH SS.
- Options for Vee or Regulating stem tips.
- The location of packing is under the thread of valve stem.
- The locking device of packing gland is reliable.
- Five flow patterns are available.

Technical Data

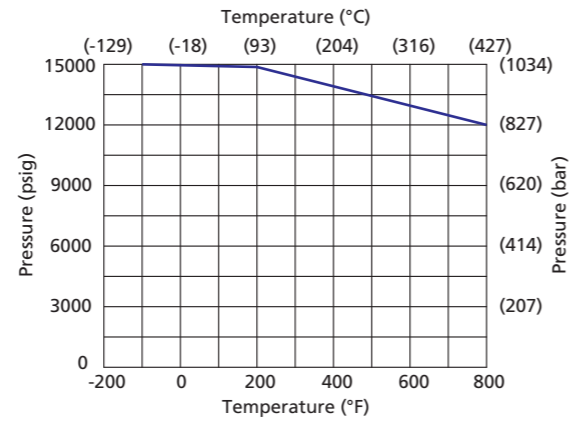
Connector size	Connection Type	Orifice in. (mm)	Cv	Pressure @ Room Temperature psig (bar)	Operating Temperature
1/8" Tube	FH2	0.094 (2.39)	0.12	15,000 (1034)	-325°F~800°F (-198°C~427°C)
1/4" Tube	FH4	0.188 (4.77)	0.65	15,000 (1034)	
3/8" Tube	FH6	0.250 (6.35)	0.95	15,000 (1034)	
1/2" Tube	FH8	0.375 (9.53)	1.90	15,000 (1034)	
1/8 NPT	FNS2	0.078 (1.98)	0.11	15,000 (1034)	-325°F~400°F (-198°C~204°C)
1/8 BSPT	FRT2				
1/4 NPT	FNS4	0.203 (5.16)	0.63	15,000 (1034)	
1/4 BSPT	FRT4				
3/8 NPT	FNS6	0.219 (5.56)	0.75	15,000 (1034)	
3/8 BSPT	FRT6				
1/2 NPT	FNS8	0.312 (7.92)	1.30	15,000 (1034)	
1/2 BSPT	FRT8				

- Notes:**
- The value of Cv shown are for 2-way straight valve pattern. The value of Cv for 2-way angle pattern will be increase about 50% (Base on water).
 - Extreme Temperatures**
PTFE is the standard packing material for FITOK Needle Valve; RPTFE glass and Graphite (used by Tube connectors only) also available.
Normal Needle Valve with PTFE packing can be operated from -100°F (-73°C) to 450°F (232°C).
Normal Needle Valve with RPTFE glass packing can be operated from -100°F (-73°C) to 600°F (316°C).
Normal Needle Valve with Graphite packing can be operated from 0°F (-17.8°C) to 800°F (427°C).

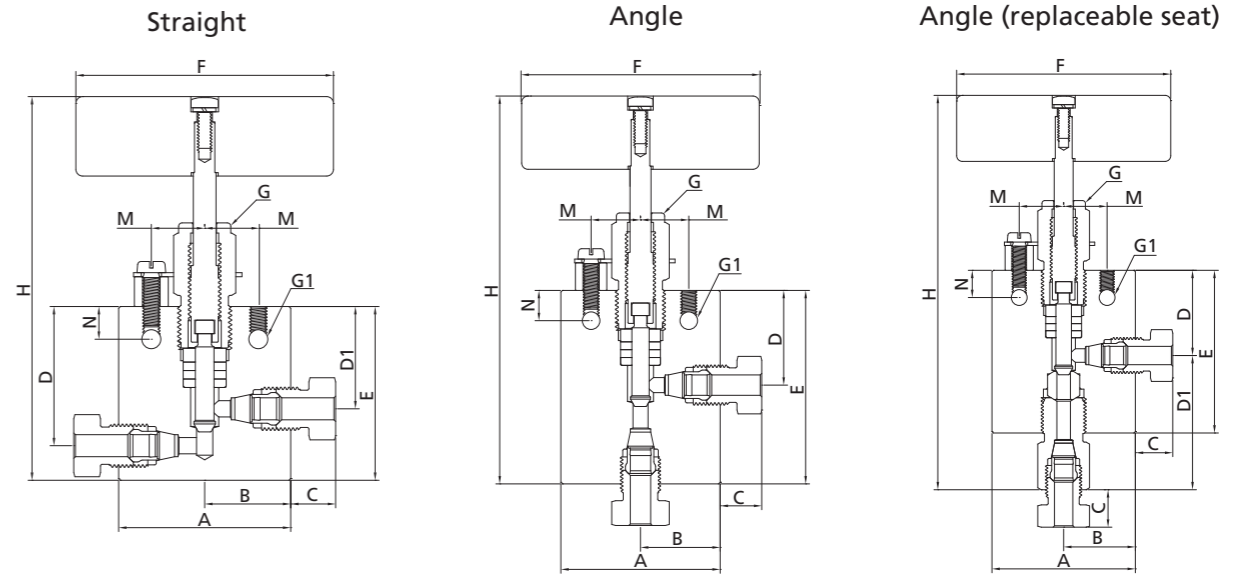
Flow Data at 100°F (38°C)



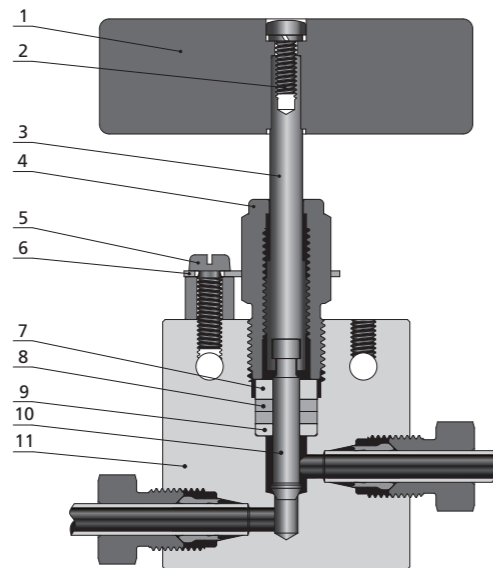
Pressure & Temperature



Dimensions (Tube Connectors)



Standard Materials of Construction



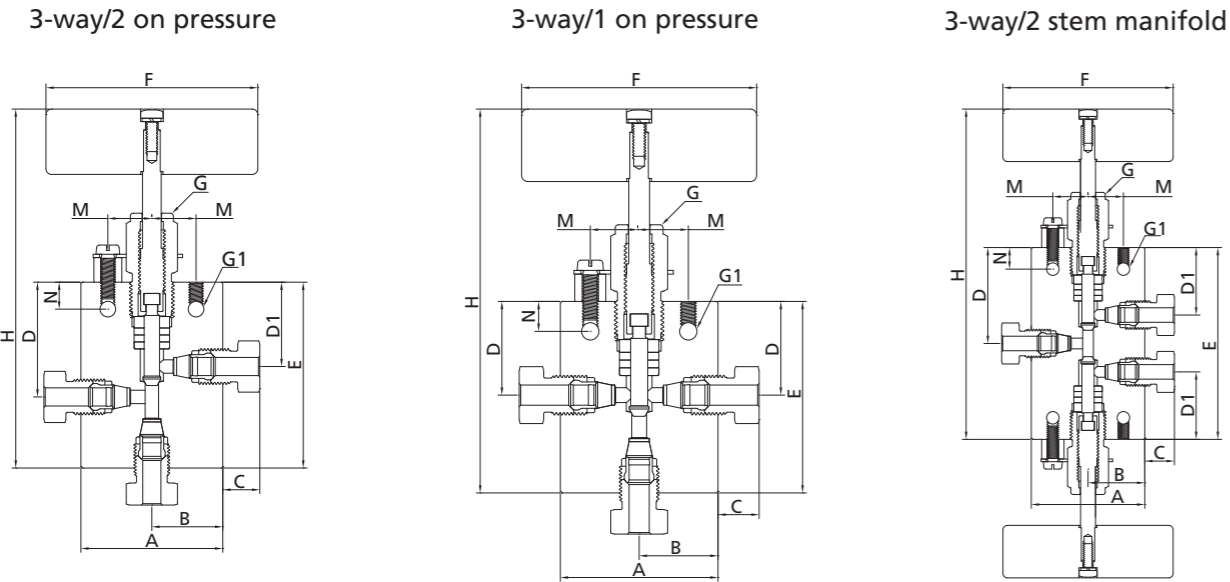
Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Handle Screw	Stainless steel
3	Upper Stem	316 SS/A479
4	Packing Gland	C63000/B150
5	Locking Screw	Stainless steel
6	Locking Plate	304 SS/A240
7	Packing Ring	C63000/B150
8	Packing	PTFE/RPTFE/GRAPHITE/Extend stuffing box valve with of Graphite
9	Packing washer	17-4PH/A564
10	Lower Stem	17-4PH/A564
11	Body	316 SS/A479
	Lubricant	Molybdenum disulfide

Dimensions (Straight)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NSS-FH2-1	FH2	0.094 (2.39)	1.50 (38.1)	0.75 (19.1)	0.31 (7.9)	1.06 (26.9)	0.81 (20.6)	1.38 (35.1)	1.75 (44.5)	0.62 (15.8)	0.17 (4.3)	3.75 (95.3)	0.56 (14.2)	0.31 (7.9)	0.62 (15.8)
15NSS-FH4-1	FH4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.62 (41.2)	1.19 (30.2)	2.00 (50.8)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.50 (114.3)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH6-1	FH6	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.62 (41.2)	1.19 (30.2)	2.00 (50.8)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.50 (114.3)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH8-1	FH8	0.375 (9.53)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	2.38 (60.5)	1.75 (44.5)	2.88 (73.2)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	5.95 (151.4)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)

Dimensions (Angle)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NSS-FH2-2	FH2	0.094 (2.39)	1.50 (38.1)	0.75 (19.1)	0.31 (7.9)	0.81 (20.6)	/	1.56 (39.6)	1.75 (44.5)	0.62 (15.8)	0.17 (4.3)	3.94 (100.1)	0.56 (14.2)	0.31 (7.9)	0.62 (15.8)
15NSS-FH4-2	FH4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.19 (30.2)	/	2.43 (61.7)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.00 (127.0)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH6-2	FH6	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.19 (30.2)	/	2.43 (61.7)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.00 (127.0)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH8-2	FH8	0.375 (9.53)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)	/	3.38 (85.9)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.45 (163.8)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)

Dimensions (Angle/replaceable seat)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NSS-FH2-3	FH2	0.094 (2.39)	1.50 (38.1)	0.75 (19.1)	0.31 (7.9)	0.81 (20.6)	1.28 (32.5)	1.56 (39.6)	1.75 (44.5)	0.62 (15.8)	0.17 (4.3)	4.50 (114.3)	0.56 (14.2)	0.31 (7.9)	0.62 (15.8)
15NSS-FH4-3	FH4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.19 (30.2)	1.88 (47.8)	2.25 (57.2)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.75 (146.1)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH6-3	FH6	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.19 (30.2)	2.19 (55.6)	2.25 (57.2)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.75 (146.1)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH8-3	FH8	0.375 (9.53)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)	2.50 (63.5)	3.25 (82.6)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	7.51 (190.8)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)

Dimensions (Tube Connectors)

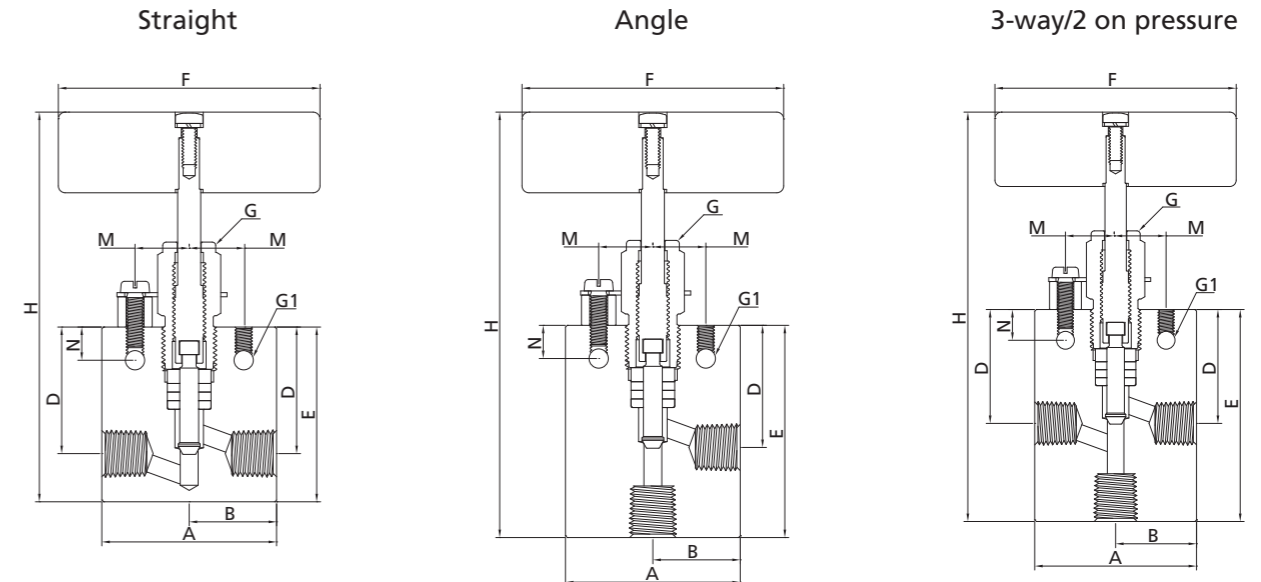


Dimensions (3-way/2 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NSS-FH2-4	FH2	0.094 (2.39)	1.50 (38.1)	0.75 (19.1)	0.31 (7.9)	1.06 (26.9)	0.81 (20.6)	1.69 (42.9)	1.75 (44.5)	0.62 (15.8)	0.17 (4.3)	4.06 (103.1)	0.56 (14.2)	0.31 (7.9)	0.62 (15.8)
15NSS-FH4-4	FH4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.62 (41.2)	1.19 (30.2)	2.62 (66.6)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.18 (131.6)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH6-4	FH6	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.62 (41.2)	1.19 (30.2)	2.62 (66.6)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.18 (131.6)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH8-4	FH8	0.375 (9.53)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	2.38 (60.5)	1.75 (44.5)	3.62 (92.0)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.70 (170.2)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)

Dimensions (3-way/1 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NSS-FH2-5	FH2	0.094 (2.39)	1.50 (38.1)	0.75 (19.1)	0.31 (7.9)	0.81 (20.6)	/	1.56 (39.6)	1.75 (44.5)	0.62 (15.8)	0.17 (4.3)	3.94 (100.1)	0.56 (14.2)	0.31 (7.9)	0.62 (15.8)
15NSS-FH4-5	FH4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.19 (30.2)	/	2.43 (61.7)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.00 (127.0)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH6-5	FH6	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.19 (30.2)	/	2.43 (61.7)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.00 (127.0)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH8-5	FH8	0.375 (9.53)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)	/	3.38 (85.9)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.45 (163.8)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)

Dimensions (3-way/2 stem manifold)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NSS-FH2-6	FH2	0.094 (2.39)	1.50 (38.1)	0.75 (19.1)	0.31 (7.9)	1.12 (28.5)	0.81 (20.6)	2.25 (57.2)	1.75 (44.5)	0.62 (15.8)	0.17 (4.3)	4.63 (117.6)	0.56 (14.2)	0.31 (7.9)	0.62 (15.8)
15NSS-FH4-6	FH4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.69 (42.9)	1.19 (30.2)	3.38 (85.9)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.94 (150.9)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH6-6	FH6	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.69 (42.9)	1.19 (30.2)	3.38 (85.9)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.94 (150.9)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FH8-6	FH8	0.375 (9.53)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	2.56 (65.0)	1.75 (44.5)	5.12 (130.1)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	8.20 (208.3)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)

Dimensions (Pipe Connectors)



Dimensions (Straight)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NSS-FNS2-1	FNS2	0.078 (1.98)	1.50 (38.1)	0.75 (19.1)	/	0.82 (20.6)	/	1.25 (31.8)	1.75 (44.5)	0.56 (14.2)	0.16 (4.1)	2.53 (64.3)	0.45 (11.4)	0.20 (5.2)	0.63 (15.9)
15NSS-FRT2-1	FRT2	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15NSS-FNS4-1	FNS4	0.203 (5.2)	2.00 (50.8)	1.00 (25.4)	/	1.41 (35.8)	/	2.00 (50.8)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.63 (117.6)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FRT4-1	FRT4	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15NSS-FNS6-1	FNS6	0.219 (5.56)	2.50 (63.5)	1.25 (31.8)	/	1.41 (35.8)	/	2.00 (50.8)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.63 (117.6)	0.62 (15.8)	0.38 (9.7)	1.00 (25.4)
15NSS-FRT6-1	FRT6	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15NSS-FNS8-1	FNS8	0.312 (7.92)	3.00 (76.2)	1.50 (38.1)	/	2.06 (52.3)	/	2.88 (73.2)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	5.93 (150.6)	0.69 (17.5)	0.50 (12.7)	1.38 (35.1)
15NSS-FRT8-1	FRT8	/	/	/	/	/	/	/	/	/	/	/	/	/	/

Dimensions (Angle)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NSS-FNS2-2	FNS2	0.078 (1.98)	1.50 (38.1)	0.75 (19.1)	/	0.56 (14.2)	/	1.38 (34.9)	1.75 (44.5)	0.56 (14.2)	0.16 (4.1)	2.66 (67.6)	0.45 (11.4)	0.20 (5.2)	0.63 (15.9)
15NSS-FRT2-2	FRT2	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15NSS-FNS4-2	FNS4	0.203 (5.2)	2.00 (50.8)	1.00 (25.4)	/	1.41 (35.8)	/	2.44 (62.0)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.81 (122.2)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
15NSS-FRT4-2	FRT4	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15NSS-FNS6-2	FNS6	0.219 (5.56)	2.50 (63.5)	1.25 (31.8)	/	1.41 (35.8)	/	2.44 (62.0)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.81 (122.2)	0.62 (15.8)	0.38 (9.7)	1.00 (25.4)
15NSS-FRT6-2	FRT6	/	/	/	/	/	/	/	/	/	/	/	/	/	/
15NSS-FNS8-2	FNS8	0.312 (7.92)	3.00 (76.2)	1.50 (38.1)	/	2.06 (52.3)	/	3.38 (85.9)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.43 (163.3)	0.69 (17.5)	0.50 (12.7)	1.38 (35.1)
15NSS-FRT8-2	FRT8	/	/	/	/	/	/	/	/	/	/	/	/	/	/

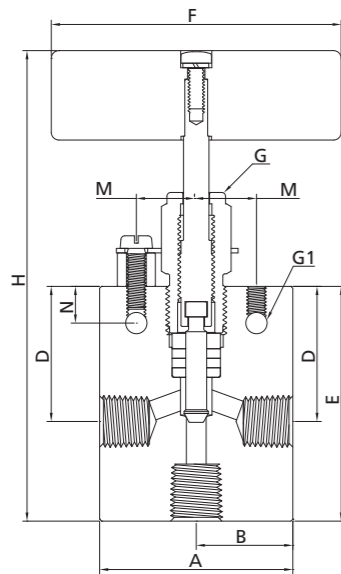
Dimensions (3-way/2 on pressure)																	
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness		
			in. (mm)														
15NSS-FNS2-4	FNS2	0.078 (1.98)	1.50 (38.1)	0.75 (19.1)	/	0.82 (20.6)	/	1.57 (40.0)	1.75 (44.5)	0.56 (14.2)	0.16 (4.1)	2.86 (72.6)	0.45 (11.4)	0.20 (5.2)	0.63 (15.9)		
15NSS-FRT2-4	FRT2		15NSS-FNS4-4	FNS4	0.203 (5.2)	2.00 (50.8)	1.00 (25.4)	/	1.41 (35.8)	/	2.62 (66.6)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.00 (127.0)	0.62 (15.8)	0.38 (9.7)
15NSS-FRT4-4	FRT4	15NSS-FNS6-4	FNS6	0.219 (5.56)		2.50 (63.5)	1.25 (31.8)	/	1.41 (35.8)	/	2.62 (66.6)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.00 (127.0)	0.62 (15.8)	0.38 (9.7)
15NSS-FRT6-4	FRT6	15NSS-FNS8-4	FNS8		0.312 (7.92)	3.00 (76.2)	1.50 (38.1)	/	2.06 (52.3)	/	3.62 (92.0)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.52 (165.6)	0.69 (17.5)	0.50 (12.7)
15NSS-FRT8-4	FRT8																

Dimensions (3-way/2 stem manifold)																	
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness		
			in. (mm)														
15NSS-FNS2-6	FNS2	0.078 (1.98)	1.50 (38.1)	0.75 (19.1)	/	1.00 (25.6)	0.68 (17.2)	2.02 (51.2)	1.75 (44.5)	0.56 (14.2)	0.16 (4.1)	3.30 (83.8)	0.45 (11.4)	0.20 (5.2)	0.63 (15.9)		
15NSS-FRT2-6	FRT2		15NSS-FNS4-6	FNS4	0.203 (5.2)	2.00 (50.8)	1.00 (25.4)	/	1.69 (42.9)	1.19 (30.2)	3.38 (85.9)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.75 (146.1)	0.62 (15.8)	0.38 (9.7)
15NSS-FRT4-6	FRT4	15NSS-FNS6-6	FNS6	0.219 (5.56)		2.50 (63.5)	1.25 (31.8)	/	1.69 (42.9)	1.19 (30.2)	3.38 (85.9)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.75 (146.1)	0.62 (15.8)	0.38 (9.7)
15NSS-FRT6-6	FRT6	15NSS-FNS8-6	FNS8		0.312 (7.92)	3.00 (76.2)	1.50 (38.1)	/	2.56 (65.1)	1.75 (44.5)	5.12 (130.1)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	8.05 (204.5)	0.69 (17.5)	0.50 (12.7)
15NSS-FRT8-6	FRT8																

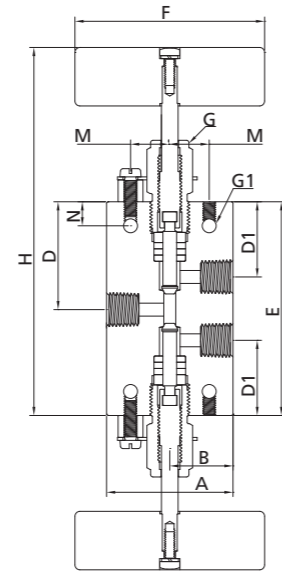
- Notes:**
- G is the drill dimension of packing gland mounting hole.
 - G1 is the dimension of bracket mounting hole.
 - panel mounting drill size: 0.25" all valves.
 - H is the dimension of stem in closed position.
 - All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

Dimensions (Pipe Connectors)

3-way/1 on pressure



3-way/2 stem manifold



Dimensions (3-way/1 on pressure)																	
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness		
			in. (mm)														
15NSS-FNS2-5	FNS2	0.078 (1.98)	1.50 (38.1)	0.75 (19.1)	/	0.82 (20.6)	/	1.38 (35.0)	1.75 (44.5)	0.56 (14.2)	0.16 (4.1)	2.86 (72.6)	0.45 (11.4)	0.20 (5.2)	0.63 (15.9)		
15NSS-FRT2-5	FRT2		15NSS-FNS4-5	FNS4	0.203 (5.2)	2.00 (50.8)	1.00 (25.4)	/	1.41 (35.8)	/	2.44 (62.0)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.81 (122.2)	0.62 (15.8)	0.38 (9.7)
15NSS-FRT4-5	FRT4	15NSS-FNS6-5	FNS6	0.219 (5.56)		2.50 (63.5)	1.25 (31.8)	/	1.41 (35.8)	/	2.44 (62.0)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.81 (122.2)	0.62 (15.8)	0.38 (9.7)
15NSS-FRT6-5	FRT6	15NSS-FNS8-5	FNS8		0.312 (7.92)	3.00 (76.2)	1.50 (38.1)	/	2.06 (52.3)	/	3.38 (85.9)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.31 (160.3)	0.69 (17.5)	0.50 (12.7)
15NSS-FRT8-5	FRT8																

20N Series

20,000 psi (1379 bar)

Features

- Tubing sizes available for 1/4", 3/8", 9/16", 3/4", 1".
- Non-rotating stem and bar stock body design.
- Easy to assemble and replace packing.
- 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, Graphite and Extend stuffing box valve with Graphite also available.
- Extend stuffing box valve with of Graphite can be operated to 1200°F (649°C).
- The material of packing gland and upper stem have been selected to achieve reduced handle torque and extended thread cycle life.
- The material of valve body is 316 SS, the material of lower stem is 17-4PH SS.
- Options for Vee or Regulating stem tips.
- The location of packing is under the thread of valve stem.
- The locking device of packing gland is reliable.
- Five flow patterns are available.

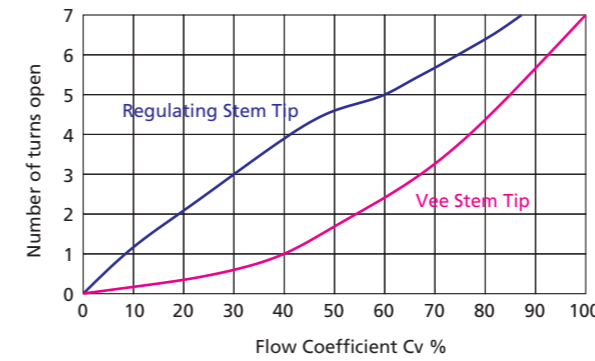
Technical Data

Tube OD in.	Connection Type	Orifice in. (mm)	Cv	Pressure @ room Temperature psig (bar)	Operating Temperature
1/4	2FH4	0.125 (3.18)	0.31	20,000 (1379)	-325°F~1200°F (-198°C~649°C)
3/8	2FH6	0.219 (5.56)	0.75	20,000 (1379)	
9/16	2FH9	0.312 (7.92)	1.30	20,000 (1379)	
3/4	2FH12	0.438 (11.13)	2.50	20,000 (1379)	
1	2FH16	0.562 (14.27)	4.40	20,000 (1379)	

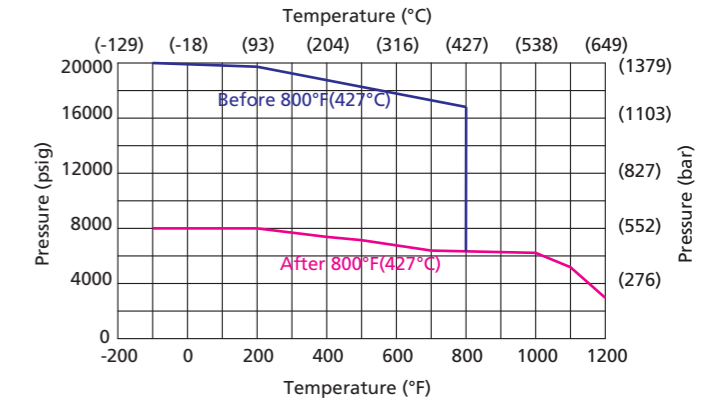
Notes:

- The value of Cv shown are for 2-way straight valve pattern.
The value of Cv for 2-way angle pattern will be increase about 50% (Base on water).
- Extreme Temperatures
PTFE is the standard packing material for FITOK Needle Valve; RPTFE glass, Graphite and Extend stuffing box valve with graphite also available.
Normal Needle Valve with PTFE packing can be operated from -100°F (-73°C) to 450°F (232°C).
Normal Needle Valve with RPTFE glass packing can be operated from -100°F (-73°C) to 600°F (316°C).
Normal Needle Valve with Graphite packing can be operated from 0°F (-17.8°C) to 800°F (427°C).
Extending stuffing box Valve with of Graphite packing can be operated from 100°F (-73°C) to 1200°F (649°C).

Flow Data at 100°F (38°C)

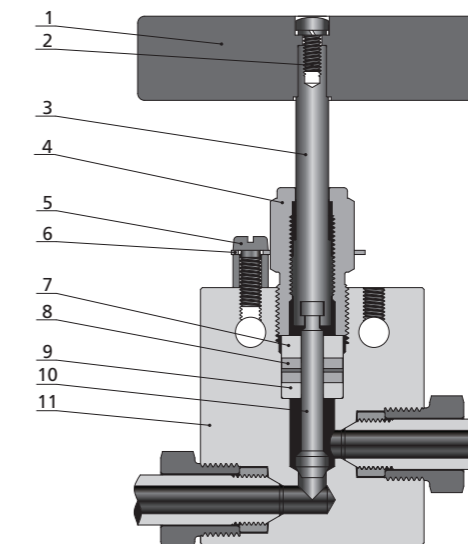


Pressure & Temperature



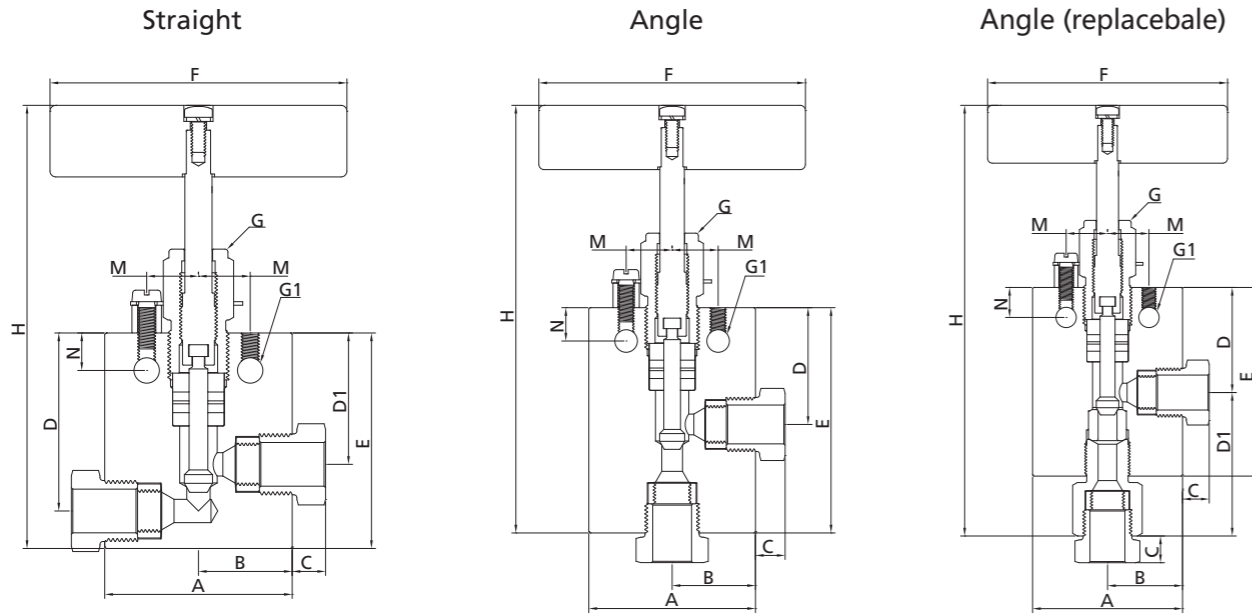
When exceeding 800°F (427°C), use the pink curve as its cold-worked rating for future operating of the components.

Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Handle Screw	Stainless steel
3	Upper Stem	316 SS/A479
4	Packing Gland	C63000/B150
5	Locking Screw	Stainless steel
6	Locking Plate	304 SS/A240
7	Packing Ring	C63000/B150
8	Packing	PTFE/RPTFE/GRAPHITE/Extend stuffing box valve with of Graphite
9	Packing washer	17-4PH/A564
10	Lower Stem	17-4PH/A564
11	Body	316 SS/A479
	Lubricant	Molybdenum disulfide

Dimensions

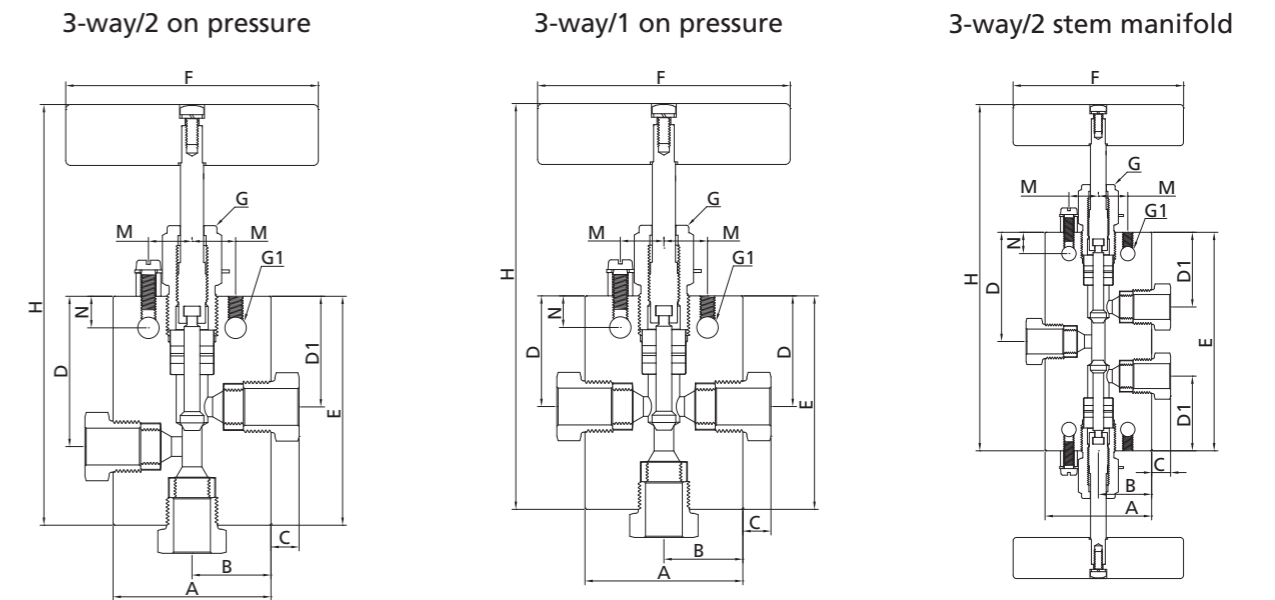


Dimensions (Straight)																
Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
20NSS-FH4-1	2FH4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.7)	1.62 (41.2)	1.19 (30.2)	2.00 (50.8)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.69 (119.1)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)	
20NSS-FH6-1	2FH6	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.9)	1.62 (41.2)	1.19 (30.2)	2.00 (50.8)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.69 (119.1)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)	
20NSS-FH9-1	2FH9	0.312 (7.92)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	2.38 (60.5)	1.75 (44.5)	2.88 (73.2)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	5.93 (150.9)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)	
20NSS-FH12-1	2FH12	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	3.00 (76.2)	2.25 (57.2)	3.75 (95.3)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	7.00 (177.8)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)	
20NSS-FH16-1	2FH16	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.0)	3.75 (95.3)	2.81 (71.4)	4.63 (117.6)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.00 (228.6)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)	

Dimensions (Angle)																
Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
20NSS-FH4-2	2FH4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.7)	1.19 (30.2)	2.44 (61.9)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.81 (122.3)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)		
20NSS-FH6-2	2FH6	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.9)	1.19 (30.2)	2.44 (61.9)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.81 (122.3)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)		
20NSS-FH9-2	2FH9	0.312 (7.92)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)	3.38 (85.9)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.43 (163.6)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)		
20NSS-FH12-2	2FH12	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	2.25 (57.2)	4.25 (108.0)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	7.50 (190.5)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)		
20NSS-FH16-2	2FH16	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.0)	2.81 (71.4)	5.12 (130.1)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.00 (228.6)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)		

Dimensions (Angle/replaceable seat)																
Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
20NSS-FH4-3	2FH4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.7)	1.19 (30.2)	2.13 (54.0)	2.25 (57.2)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.75 (146.1)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)	
20NSS-FH6-3	2FH6	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.9)	1.19 (30.2)	2.13 (54.0)	2.25 (57.2)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.75 (146.1)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)	
20NSS-FH9-3	2FH9	0.312 (7.92)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)	2.50 (63.5)	3.13 (79.4)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	7.34 (186.7)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)	
20NSS-FH12-3	2FH12	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	2.25 (57.2)	3.44 (87.4)	4.25 (108.0)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	9.00 (228.6)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)	
20NSS-FH16-3	2FH16	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.0)	2.69 (68.3)	4.38 (111.1)	5.25 (133.4)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	11.00 (279.7)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)	

Dimensions



Dimensions (3-way/2 on pressure)																
Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
20NSS-FH4-4	2FH4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.7)	1.63 (41.3)	1.19 (30.2)	2.63 (66.7)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.00 (127.0)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)	
20NSS-FH6-4	2FH6	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.9)	1.63 (41.3)	1.19 (30.2)	2.63 (66.7)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	5.00 (127.0)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)	
20NSS-FH9-4	2FH9	0.312 (7.92)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)	3.63 (92.1)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.51 (165.6)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)		
20NSS-FH12-4	2FH12	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	2.25 (57.2)	4.63 (117.5)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	7.88 (200.0)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)		
20NSS-FH16-4	2FH16	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.0)	2.81 (71.4)	5.88 (149.4)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.75 (247.9)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)		

Dimensions (3-way/1 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
20NSS-FH4-5	2FH4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.7)	1.19 (30.2)		2.44 (61.9)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.81 (122.3)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
20NSS-FH6-5	2FH6	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.9)	1.19 (30.2)		2.44 (61.9)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	4.81 (122.3)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
20NSS-FH9-5	2FH9	0.312 (7.92)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	1.75 (44.5)		3.38 (85.9)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	6.31 (160.5)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)
20NSS-FH12-5	2FH12	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	2.25 (57.2)		4.25 (108.0)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	7.5 (190.5)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)
20NSS-FH16-5	2FH16	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.0)	2.81 (71.4)		5.12 (130.1)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	9.09 (231.1)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)

Dimensions (3-way/2 stem manifold)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
20NSS-FH4-6	2FH4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.7)	1.69 (42.9)	1.19 (30.2)	3.38 (85.7)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	8.13 (206.4)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
20NSS-FH6-6	2FH6	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.9)	1.69 (42.9)	1.19 (30.2)	3.38 (85.7)	3.00 (76.2)	0.75 (19.1)	0.22 (5.6)	8.13 (206.4)	0.62 (15.8)	0.38 (9.7)	0.75 (19.1)
20NSS-FH9-6	2FH9	0.312 (7.92)	2.50 (63.5)	1.25 (31.8)	0.53 (13.5)	2.56 (65.1)	1.75 (44.5)	5.13 (130.2)	4.00 (101.6)	1.00 (25.4)	0.34 (8.6)	11.31 (287.6)	0.69 (17.5)	0.50 (12.7)	1.00 (25.4)
20NSS-FH12-6	2FH12	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.8)	3.00 (76.2)	2.25 (57.2)	6.50 (165.1)	10.25 (260.4)	1.19 (30.2)	0.44 (11.2)	13.0 (330.2)	0.88 (22.4)	0.63 (16.0)	1.38 (35.1)
20NSS-FH16-6	2FH16	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.0)	3.75 (95.3)	2.81 (71.4)	7.50 (190.5)	10.25 (260.4)	1.62 (41.2)	0.56 (14.2)	15.44 (292.4)	1.25 (31.8)	1.13 (28.7)	1.75 (44.5)

Notes:

1. G is the drill dimension of packing gland mounting hole.
2. G1 is the dimension of bracket mounting hole.
3. Panel mounting drill size: 0.25" all valves.
4. H is the dimension of stem in closed position.
5. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

30N Series

30,000 psi (2068 bar)

Features

- Tubing sizes available for 1/4", 3/8", 9/16".
- Non-rotating stem and bar stock body design.
- Easy to assemble and replace packing.
- 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, Graphite and Extend stuffing box valve with of Graphite also available.
- Extend stuffing box valve with of Graphite can be operated to 1200°F (649°C).
- The material of packing gland and upper stem have been selected to achieve reduced handle torque and extended thread cycle life.
- The material of valve body is 316 SS, the material of lower stem is 17-4PH SS.
- Options for Vee or Regulating stem tips.
- The location of packing is under the thread of valve stem.
- The locking device of packing gland is reliable.
- Five flow patterns are available.

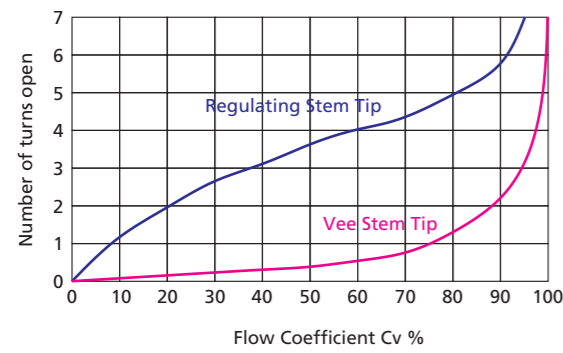
Technical Data

Tube OD in.	Connection Type	Orifice in. (mm)	Cv	Pressure @ Room Temperature psig (bar)	Operating Temperature
1/4	6FH4	0.094 (2.39)	0.12	30,000 (2068)	-325°F~1200°F (-198°C~649°C)
3/8	6FH6	0.125 (3.18)	0.23	30,000 (2068)	
9/16	6FH9	0.125 (3.18)	0.33	30,000 (2068)	

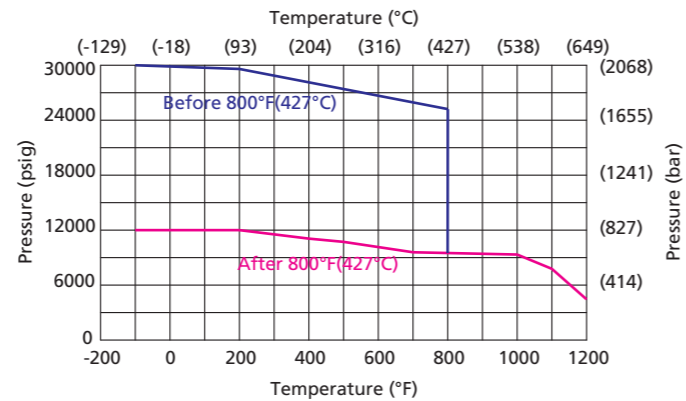
Notes:

- The value of Cv shown are for 2-way straight valve pattern.
The value of Cv for 2-way angle pattern will be increase about 50% (Base on water).
- Extreme Temperatures
PTFE is the standard packing material for FITOK Needle valve; RPTFE glass, Graphite and Extend stuffing box valve with graphite also available.
Normal Needle Valve with PTFE packing can be operated from -100°F (-73°C) to 450°F (232°C).
Normal Needle Valve with RPTFE glass packing can be operated from -100°F (-73°C) to 600°F (316°C).
Normal Needle Valve with Graphite packing can be operated from 0°F (-17.8°C) to 800°F (427°C).
Extending stuffing box Valve with of Graphite packing can be operated from 100°F (-73°C) to 1200°F (649°C).

Flow Data at 100°F (38°C)

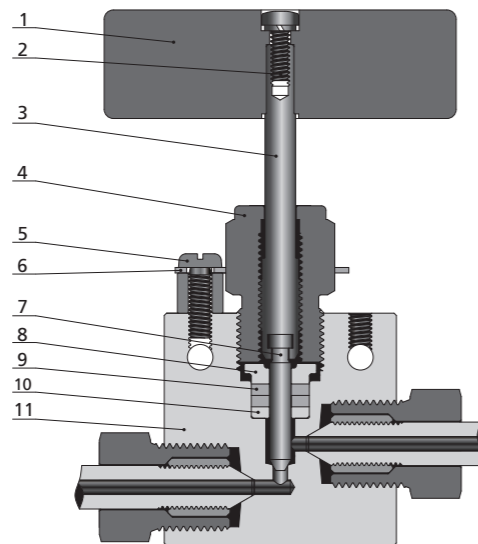


Pressure & Temperature



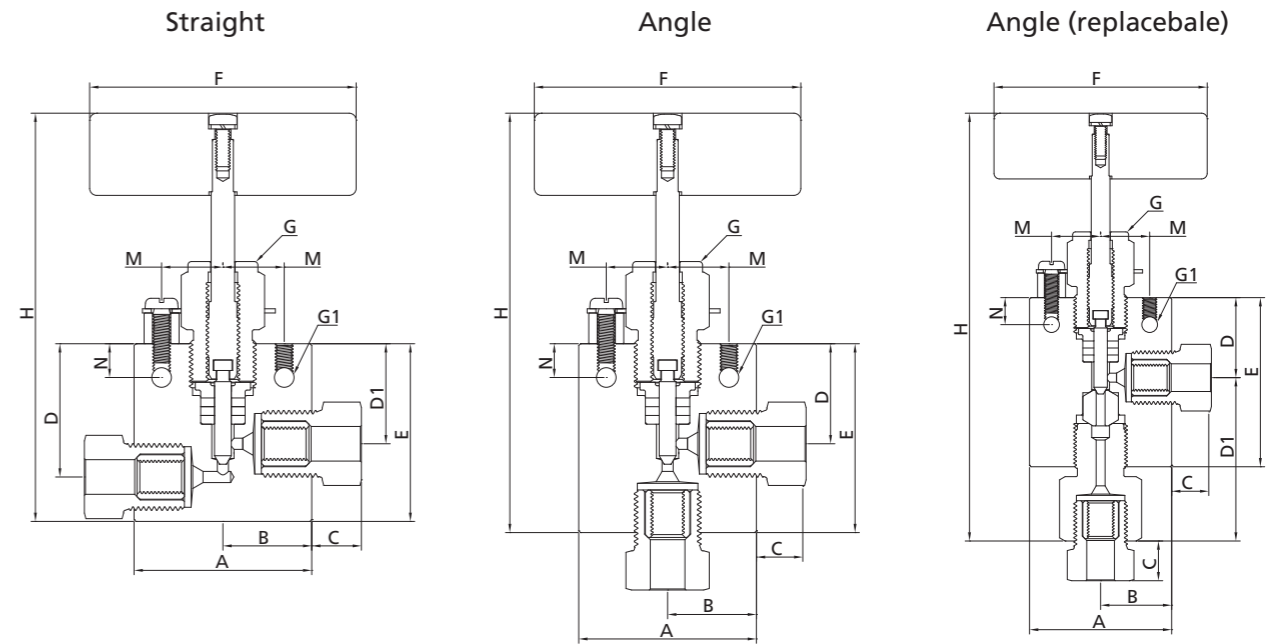
When exceeding 800°F (427°C), use the pink curve as its cold-worked rating for future operating of the components.

Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Handle Screw	Stainless steel
3	Upper Stem	316 SS/A479
4	Packing Gland	C63000/B150
5	Locking Screw	Stainless steel
6	Locking Plate	304 SS/A240
7	Lower Stem	17-4PH/A564
8	Packing Ring	C63000/B150
9	Packing	PTFE/RPTFE/GRAPHITE/Extend stuffing box valve with of Graphite
10	Packing Washer	17-4PH/A564
11	Body	316 SS/A479
	Lubricant	Molybdenum disulfide

Dimensions

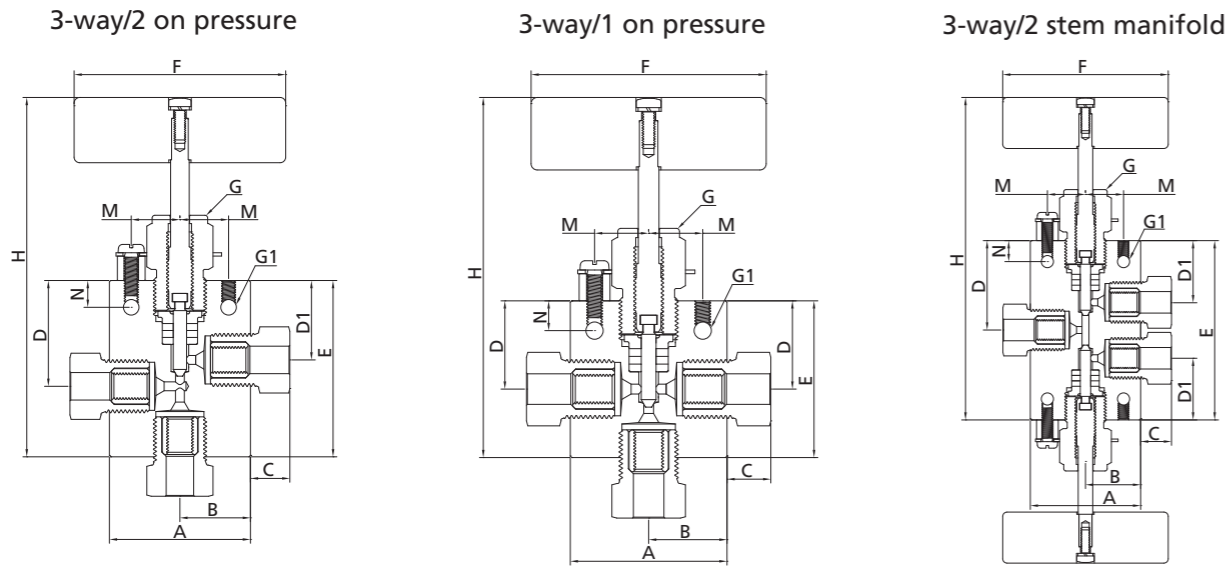


Dimensions (Straight)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
30NSS-FH4-1	6FH4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.50 (38.1)	1.12 (28.5)	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.62 (117.4)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH6-1	6FH6	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.50 (38.1)	1.12 (28.5)	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.68 (118.9)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH9-1	6FH9	0.125 (3.18)	2.62 (66.6)	1.31 (33.3)	0.81 (20.6)	1.56 (39.6)	1.12 (28.5)	2.44 (62.0)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	5.06 (128.5)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

Dimensions (Angle)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
30NSS-FH4-2	6FH4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.12 (28.5)	/	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.62 (117.4)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH6-2	6FH6	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.12 (28.5)	/	2.13 (54.0)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.68 (118.9)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH9-2	6FH9	0.125 (3.18)	2.62 (66.6)	1.31 (33.3)	0.81 (20.6)	1.12 (28.5)	/	2.44 (62.0)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	5.06 (128.5)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

Dimensions (Angle/replaceable seat)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
30NSS-FH4-3	6FH4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.12 (28.5)	2.06 (52.3)	2.38 (60.5)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	5.80 (147.3)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH6-3	6FH6	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.12 (28.5)	2.31 (58.67)	2.38 (60.5)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	6.05 (153.7)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH9-3	6FH9	0.125 (3.18)	2.62 (66.6)	1.31 (33.3)	0.81 (20.6)	1.19 (30.2)	2.62 (66.6)	2.44 (62.0)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	6.45 (163.8)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

Dimensions



Dimensions (3-way/2 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
30NSS-FH4-4	6FH4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.50 (38.1)	1.12 (28.5)	2.12 (53.9)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.74 (120.4)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH6-4	6FH6	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.50 (38.1)	1.12 (28.5)	2.50 (63.5)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	5.12 (130.1)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH9-4	6FH9	0.125 (3.18)	2.62 (66.6)	1.31 (33.3)	0.81 (20.6)	1.56 (39.6)	1.12 (28.5)	2.88 (73.2)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	5.49 (139.5)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

Dimensions (3-way/1 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
30NSS-FH4-5	6FH4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.12 (28.5)	/	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.62 (117.4)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH6-5	6FH6	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.12 (28.5)	/	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.74 (120.4)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH9-5	6FH9	0.125 (3.18)	2.62 (66.6)	1.31 (33.3)	0.81 (20.6)	1.12 (28.5)	/	2.44 (62.0)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	5.12 (130.1)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

Dimensions (3-way/2 stem manifold)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
30NSS-FH4-6	6FH4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.53 (38.9)	1.12 (28.5)	3.06 (77.7)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	5.68 (144.3)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH6-6	6FH6	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.62 (41.2)	1.12 (28.5)	3.25 (82.6)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	5.87 (149.1)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
30NSS-FH9-6	6FH9	0.125 (3.18)	2.62 (66.6)	1.31 (33.3)	0.81 (20.6)	1.88 (47.8)	1.12 (28.5)	3.75 (95.3)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	6.37 (161.8)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

- Notes:**
- G is the drill dimension of packing gland mounting hole.
 - G1 is the dimension of bracket mounting hole.
 - Panel mounting drill size: 0.25" all valves.
 - H is the dimension of stem in closed position.
 - All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or FITOK Group.

60N Series 60,000 psi (4137 bar)

Features

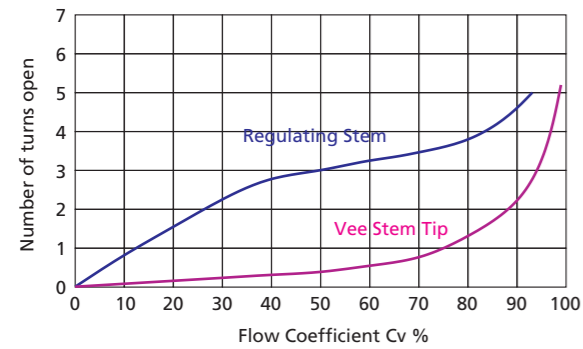
- Tubing sizes available for 1/4", 3/8", 9/16".
- Non-rotating stem and bar stock body design.
- Easy to assemble and replace packing.
- Metal-to-metal seating achieves ideal shutoff, longer stem/seat service lifetime for abrasive flow, excellent corrosion resistance and greater durability for repeated on/off cycles.
- Nylon is the standard packing material, RPTFE glass, Graphite and Extending stuffing box valve with Graphite also available.
- Extend stuffing box valve with of Graphite can be operated to 1200°F (649°C).
- The material of packing gland and upper stem have been selected to achieve reduced handle torque and extended thread cycle life.
- The material of valve body is 316 SS, the material of lower stem is 17-4PH SS.
- Options for Vee or Regulating stem tips.
- The location of packing is under the thread of valve stem.
- The locking device of packing gland is reliable.
- Five flow patterns are available.

Technical Data

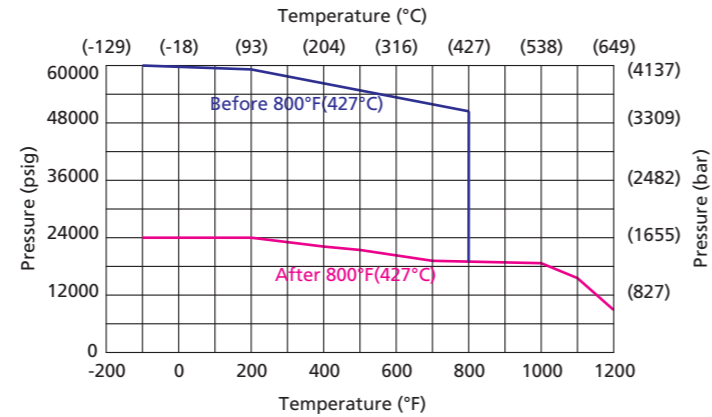
Tube OD in.	Connection Type	Orifice in. (mm)	Cv	Pressure @ Room Temperature psig (bar)	Operating Temperature
1/4	6FH4	0.063 (1.59)	0.08	60,000 (4137)	-325°F~1200°F (-198°C~649°C)
3/8	6FH6	0.063 (1.59)	0.09	60,000 (4137)	
9/16	6FH9	0.078 (1.98)	0.14	60,000 (4137)	

- Notes:**
- The value of Cv shown are for 2-way straight valve pattern. The value of Cv for 2-way angle pattern will be increase about 50% (Base on water).
 - Extreme Temperatures
Nylon is the standard packing material for FITOK Needle Valve; RPTFE glass, Graphite and Extend stuffing box valve with graphite also available.
Normal Needle valve with Nylon packing can be operated from 40°F (4.4°C) to 230°F (110°C).
Normal Needle Valve with RPTFE glass packing can be operated from -100°F (-73°C) to 600°F (316°C).
Normal Needle Valve with Graphite packing can be operated from 0°F (-17.8°C) to 800°F (427°C).
Extending stuffing box Valve with of Graphite packing can be operated from 100°F (-73°C) to 1200°F (649°C).

Flow Data at 100°F (38°C)

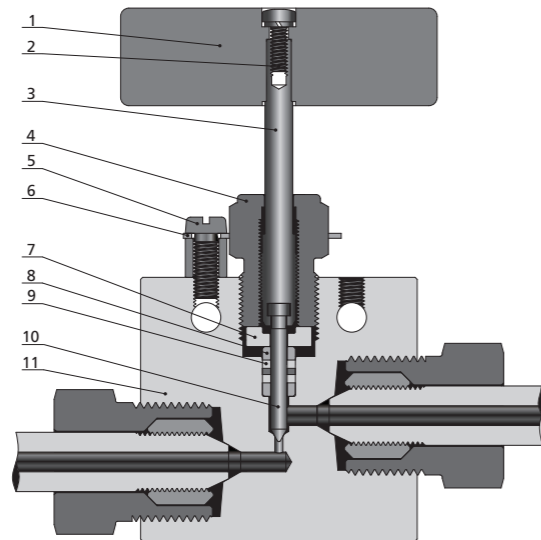


Pressure & Temperature



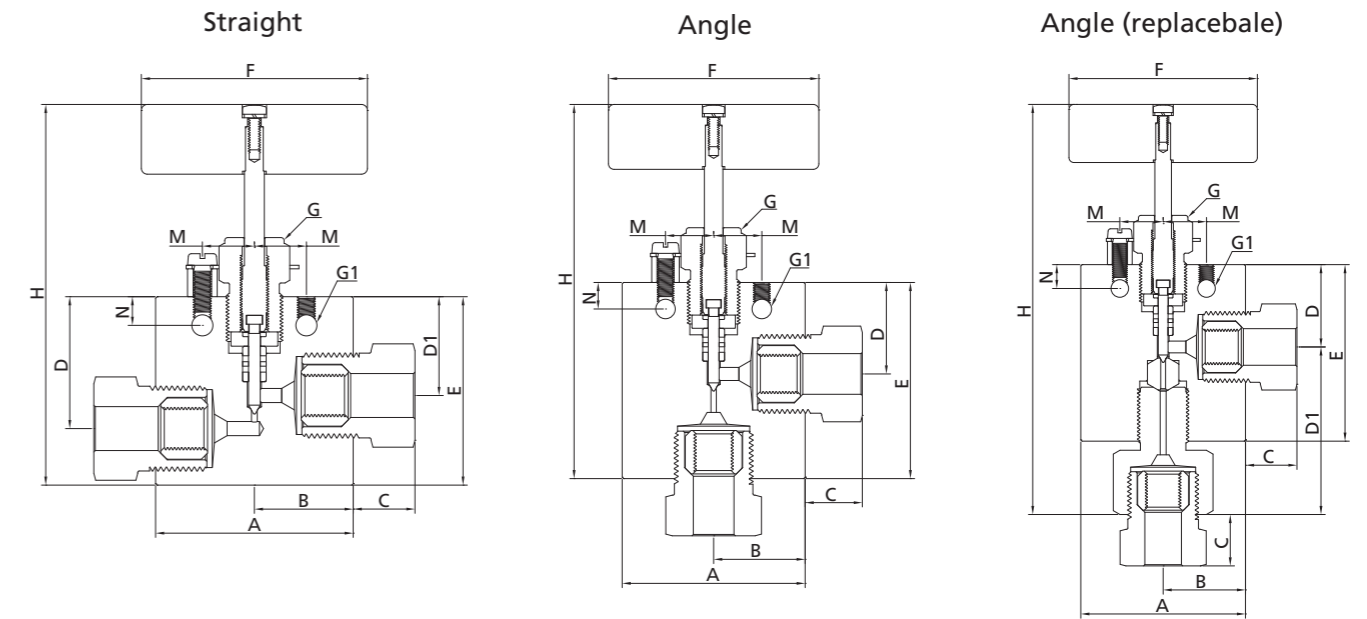
When exceeding 800°F (427°C), use the pink curve as its cold-worked rating for future operating of the components.

Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Handle Screw	Stainless steel
3	Upper Stem	316 SS/A479
4	Packing Gland	C63000/B150
5	Locking Screw	Stainless steel
6	Locking Plate	304 SS/A240
7	Packing Ring	C63000/B150
8	Packing	Nylon/RPTFE/GRAPHITE/Extend stuffing box valve with of Graphite
9	Packing washer	17-4PH/A564
10	Lower Stem	17-4PH/A564
11	Body	316 SS/A479
	Lubricant	Molybdenum disulfide

Dimensions



Dimensions (Straight)

Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)												
			A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
60NSS-FH4-1	6FH4	0.063 (1.59)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.69 (42.9)	1.31 (33.3)	2.13 (54.0)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.75 (120.7)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH6-1	6FH6	0.063 (1.59)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.69 (42.9)	1.31 (33.3)	2.25 (57.2)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.75 (120.7)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH9-1	6FH9	0.078 (1.98)	2.62 (66.6)	1.31 (33.3)	0.72 (18.3)	1.75 (44.5)	1.31 (33.3)	2.50 (63.5)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	5.13 (130.3)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

Dimensions (Angle)

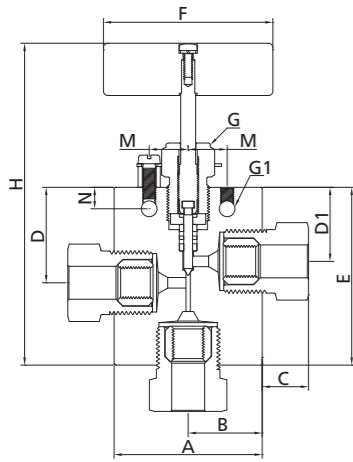
Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)												
			A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
60NSS-FH4-2	6FH4	0.063 (1.59)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.31 (33.3)	2.38 (60.5)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	5.00 (127.0)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)	
60NSS-FH6-2	6FH6	0.063 (1.59)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.31 (33.3)	2.62 (66.6)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	5.25 (133.4)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)	
60NSS-FH9-2	6FH9	0.078 (1.98)	2.62 (66.6)	1.31 (33.3)	0.72 (18.3)	1.31 (33.3)	2.81 (71.4)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	5.44 (138.2)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)	

Dimensions (Angle/replaceable seat)

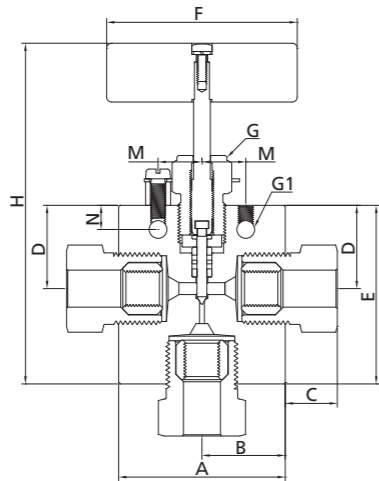
Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)												
			A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
60NSS-FH4-3	6FH4	0.063 (1.59)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.31 (33.3)	2.12 (53.9)	2.62 (66.6)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	6.28 (159.5)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH6-3	6FH6	0.063 (1.59)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.31 (33.3)	2.36 (59.9)	2.62 (66.6)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	6.52 (165.6)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH9-3	6FH9	0.078 (1.98)	2.62 (66.6)	1.31 (33.3)	0.72 (18.3)	1.31 (33.3)	2.68 (68.8)	2.62 (66.6)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	6.90 (175.3)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

Dimensions

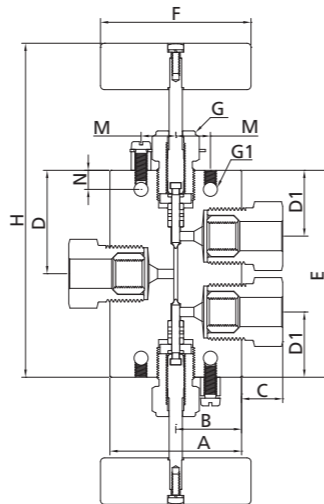
3-way/2 on pressure



3-way/1 on pressure



3-way/2 stem manifold



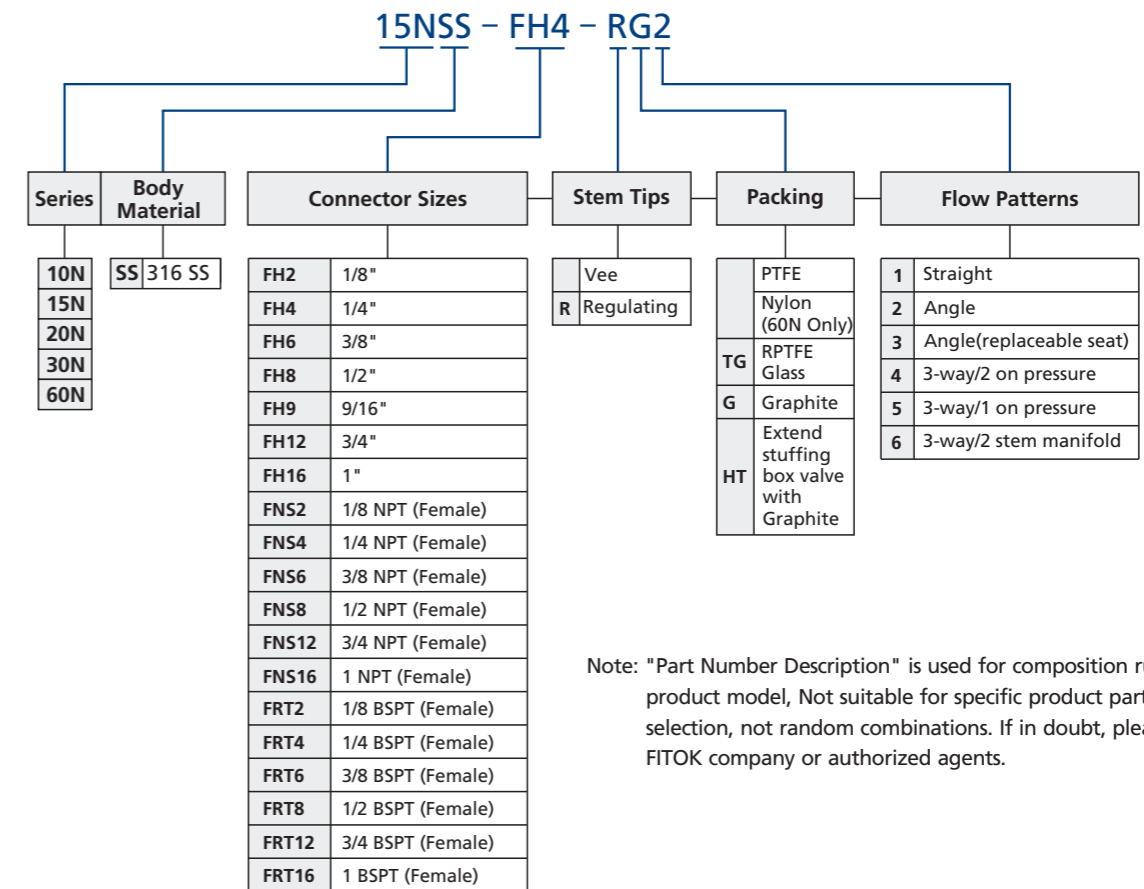
Dimensions (3-way/2 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
60NSS-FH4-4	6FH4	0.063 (1.59)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.69 (42.9)	1.31 (33.3)	2.38 (60.5)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.75 (120.7)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH6-4	6FH6	0.063 (1.59)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.69 (42.9)	1.31 (33.3)	2.75 (68.9)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.87 (123.7)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH9-4	6FH9	0.078 (1.98)	2.62 (66.6)	1.31 (33.3)	0.72 (18.3)	1.75 (44.5)	1.31 (33.3)	3.03 (77.0)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	5.13 (130.3)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

Dimensions (3-way/1 on pressure)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
60NSS-FH4-5	6FH4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.31 (33.3)	/	2.38 (60.5)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	5.00 (127.0)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH6-5	6FH6	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.31 (33.3)	/	2.62 (66.6)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	5.25 (133.4)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH9-5	6FH9	0.125 (3.18)	2.62 (66.6)	1.31 (33.3)	0.72 (18.3)	1.31 (33.3)	/	2.81 (71.4)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	5.44 (138.2)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

Dimensions (3-way/2 stem manifold)															
Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
60NSS-FH4-6	6FH4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.72 (43.69)	1.31 (33.3)	3.44 (87.4)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	6.07 (154.2)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH6-6	6FH6	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.88 (47.8)	1.31 (33.3)	3.75 (95.3)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	6.37 (161.8)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)
60NSS-FH9-6	6FH9	0.125 (3.18)	2.62 (66.6)	1.31 (33.3)	0.72 (18.3)	2.06 (52.3)	1.31 (33.3)	4.12 (104.7)	3.00 (76.2)	1.00 (25.4)	0.28 (7.1)	6.37 (161.8)	0.69 (17.5)	0.38 (9.7)	1.50 (38.1)

- Notes:**
1. G is the drill dimension of packing gland mounting hole.
 2. G1 is the dimension of bracket mounting hole.
 3. Panel mounting drill size: 0.25" all valves.
 4. H is the dimension of stem in closed position.
 5. 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 company or authorized agents.