





Contents

01 V15 Series
15,000 psi (1034 bar)

06 V20 Series
20,000 psi (1379 bar)

11 V30 Series
30,000 psi (2068 bar)

15 V60 Series
60,000 psi (4137 bar)

V15 Series 15,000 psi (1034 bar)

Features

- Tubing size from 1/4" to 1/2".
- Non-rotating stem and bar stock body design.
- Metal-to-metal seating achieves ideal shut off, 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 location of packing is under the thread of valve stem.
- The material of packing gland and stem sleeve have been selected to achieve reduced handle torque and extended thread cycle life.
- The material of body is 316 SS, The material of stem is 17-4PH SS.
- Options for Vee or Regulating stem tips.
- The locking device of packing gland is reliable.
- Five flow patterns are available.
- For In-line 2-way Needle Valves, contact authorized FD-LOK representative.

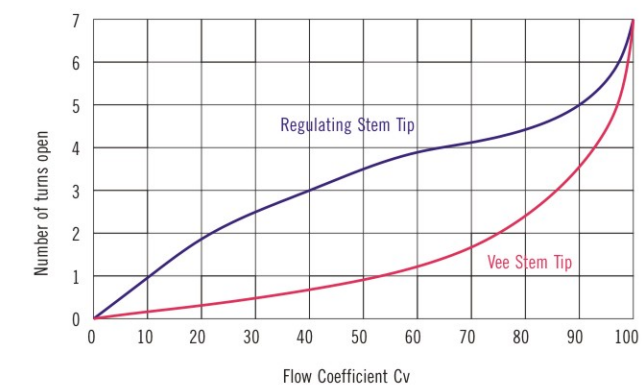
Technical Data

Tube O.D. in.	Orifice in. (mm)	Cv	Pressure @ Room Temperature psi (bar)
1/4	0.188 (4.77)	0.65	15,000 (1034)
3/8	0.250 (6.35)	0.95	15,000 (1034)
1/2	0.375 (9.53)	1.90	15,000 (1034)

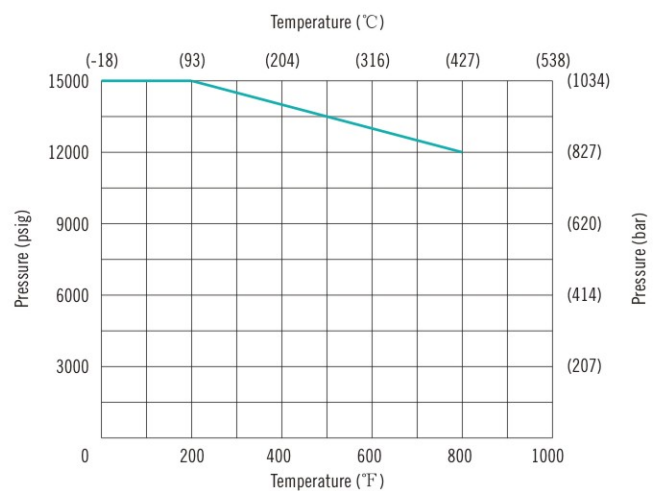
Notes:

- 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 FD-LOK Needle Valve; RPTFE glass, Graphite and Extend stuffing box valve with graphite also available.
Normal Precise Metering valve with PTFE packing can be operated to 450°F (232°C).
Normal Precise Metering valve with RPTFE glass packing can be operated to 600°F (316°C).
Normal Precise Metering valve with Graphite packing can be operated to 800°F (427°C).

Flow Data at 100°F (38°C)

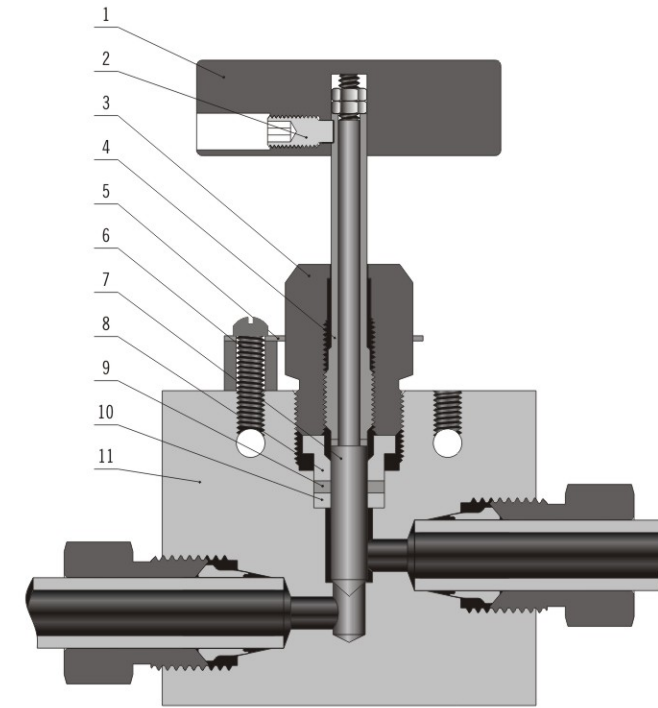


Pressure & Temperature



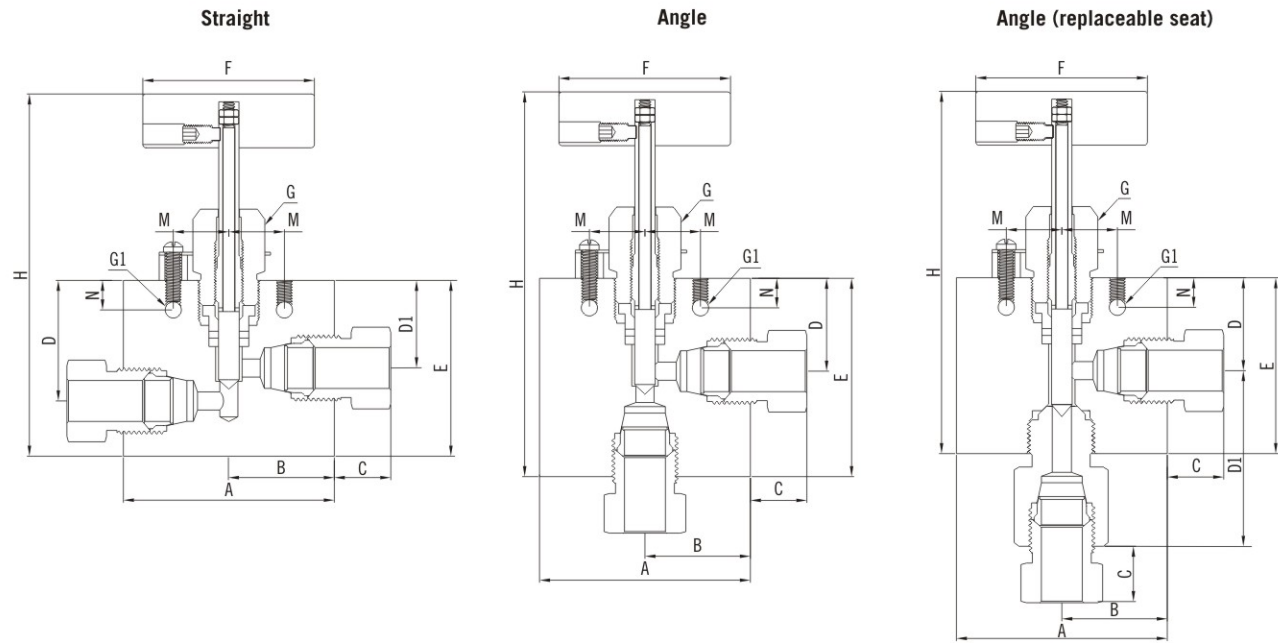
V15 Series 15,000 psi (1034 bar)

Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Handle Screw	Stainless steel
3	Packing Gland	C63000/B150
4	Sleeve	316 SS/479
5	Locking Plate	304 SS/A240
6	Locking Screw	Stainless steel
7	Stem	17-4PH/A564
8	Packing Ring	C63000/B150
9	Packing	PTFE/RPTFE/GRAPHITE
10	Packing Washer	17-4PH/A564
11	Body	316 SS/A479
	Lubricant	Molybdenum disulfide

Dimensions



Dimensions (Straight)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V15SS-S4-1	1/4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.62 (41.15)	1.19 (30.23)	2.00 (50.8)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	4.50 (114.3)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S6-1	3/8	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.62 (41.15)	1.19 (30.23)	2.00 (50.8)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	4.50 (114.3)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S8-1	1/2	0.375 (9.53)	2.50 (63.5)	1.25 (31.75)	0.53 (13.5)	2.38 (60.45)	1.75 (44.45)	2.88 (73.15)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	5.95 (151.4)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	

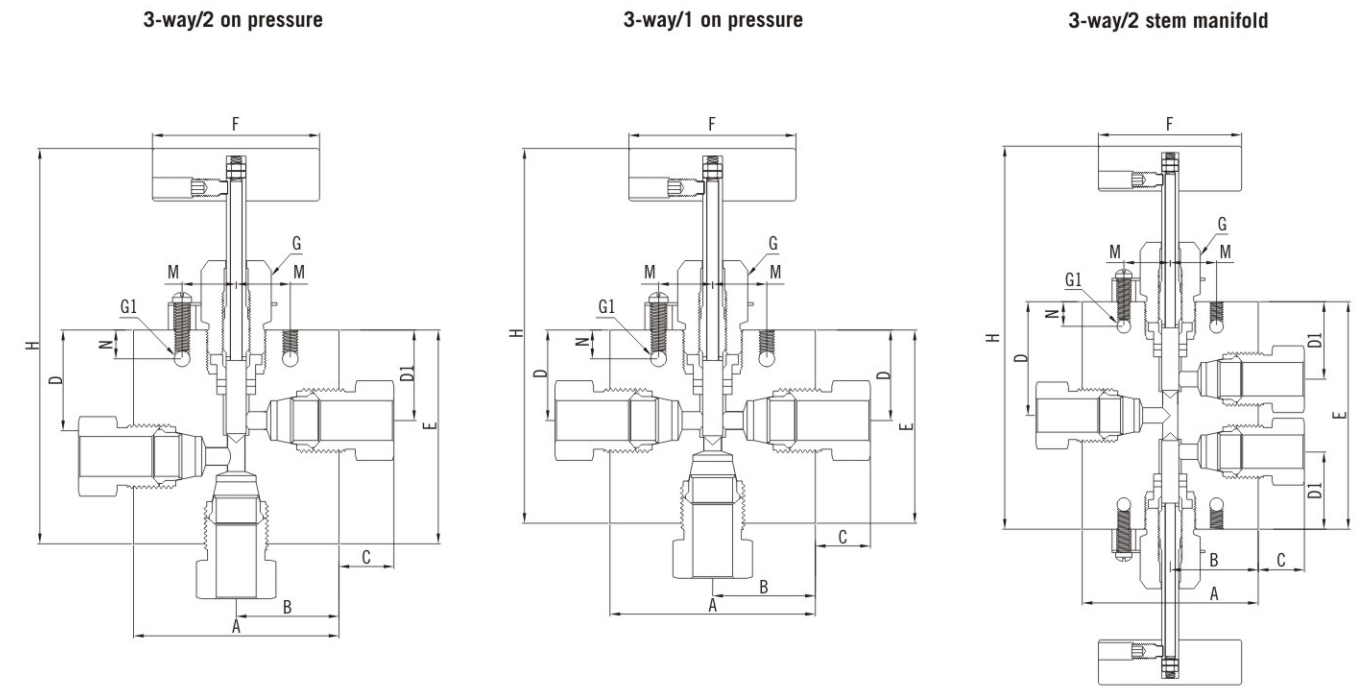
Dimensions (Angle)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V15SS-S4-2	1/4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.19 (30.23)		2.19 (55.63)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.00 (127.0)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S6-2	3/8	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.19 (30.23)		2.19 (55.63)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.00 (127.0)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S8-2	1/2	0.375 (9.53)	2.50 (63.5)	1.25 (31.75)	0.53 (13.5)	1.75 (44.45)		3.38 (85.85)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	6.45 (163.8)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	

Dimensions (Angle/replaceable seat)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V15SS-S4-3	1/4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.19 (30.23)	1.88 (47.75)	2.25 (57.15)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.75 (146.1)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S6-3	3/8	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.19 (30.23)	2.19 (55.62)	2.25 (57.15)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.75 (146.1)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S8-3	1/2	0.375 (9.53)	2.50 (63.5)	1.25 (31.75)	0.53 (13.5)	1.75 (44.45)	2.50 (63.5)	3.25 (82.55)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	7.51 (190.8)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	

Dimensions



Dimensions (3-way/2 on pressure)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V15SS-S4-4	1/4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.62 (41.15)	1.19 (30.23)	2.62 (66.55)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.18 (131.6)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S6-4	3/8	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.62 (41.15)	1.19 (30.23)	2.62 (66.55)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.18 (131.6)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S8-4	1/2	0.375 (9.53)	2.50 (63.5)	1.25 (31.75)	0.53 (13.5)	2.38 (60.45)	1.75 (44.45)	3.62 (91.95)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	6.7 (170.2)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	

Dimensions (3-way/1 on pressure)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V15SS-S4-5	1/4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.19 (30.23)		2.43 (61.72)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.00 (127.0)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S6-5	3/8	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.19 (30.23)		2.43 (61.72)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.00 (127.0)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V15SS-S8-5	1/2	0.375 (9.53)	2.50 (63.5)	1.25 (31.75)	0.53 (13.5)	1.75 (44.45)		3.38 (85.85)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	6.45 (163.8)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	

V15 Series 15,000 psi (1034 bar)

Dimensions

Dimensions (3-way/2 stem manifold)

Ordering Number	Tube OD in.	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
V15SS-S4-6	1/4	0.188 (4.77)	2.00 (50.8)	1.00 (25.4)	0.44 (11.2)	1.69 (42.93)	1.19 (30.23)	3.38 (85.85)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.94 (150.9)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)
V15SS-S6-6	3/8	0.250 (6.35)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.69 (42.93)	1.19 (30.23)	3.38 (85.85)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.94 (150.9)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)
V15SS-S8-6	1/2	0.375 (9.53)	2.50 (63.5)	1.25 (31.75)	0.53 (13.5)	2.56 (65.02)	1.75 (44.45)	5.12 (130.1)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	8.20 (208.3)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)

Note:

- G is the drill dimension of packing gland mounting hole.
- G1 is the dimension of bracket mounting hole.
- Panel mounting drill size: 0.22" 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 FD-LOK.

V20 Series 20,000 psi (1379 bar)

Features

- Tubing size from 1/4" to 1".
- Non-rotating stem and bar stock body design.
- Easy to assemble and replace packing.
- Metal-to-metal seating achieves ideal shut off, 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 stem sleeve have been selected to achieve reduced handle torque and extended thread cycle life.
- The material of body is 316 SS, The material of 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.

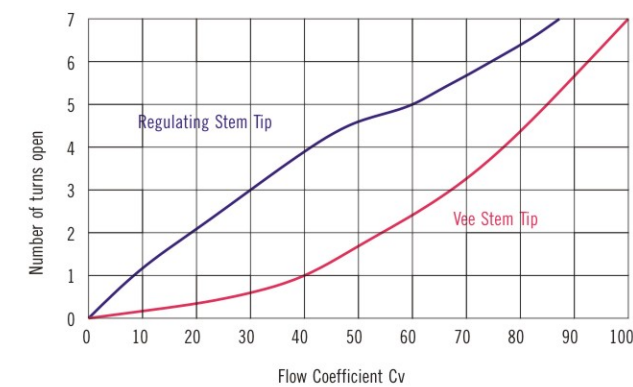
Technical Data

Tube O.D. in.	Orifice in. (mm)	Cv	Pressure @ Room Temperature psi (bar)
1/4	0.125 (3.18)	0.31	20,000 (1379)
3/8	0.219 (5.56)	0.75	20,000 (1379)
9/16	0.312 (7.92)	1.30	20,000 (1379)
3/4	0.438 (11.13)	2.50	20,000 (1379)
1	0.562 (14.27)	4.40	20,000 (1379)

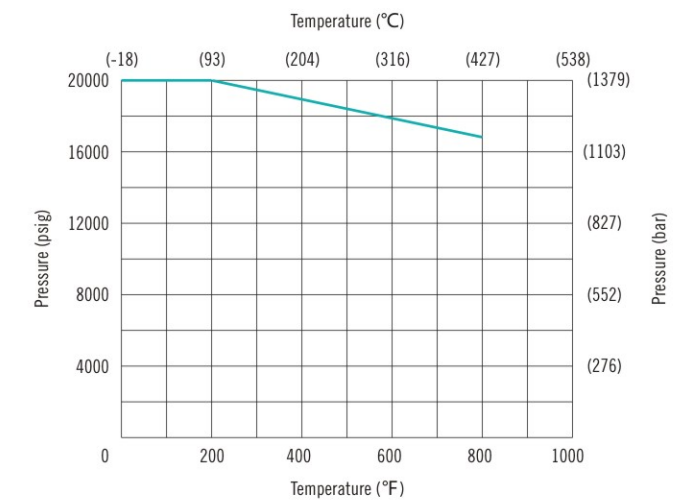
Notes:

- 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 FD-LOK Needle Valve; RPTFE glass, Graphite and Extend stuffing box valve with graphite 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).
 Normal Needle valve with Graphite packing can be operated to 800°F (427°C).
 Extend stuffing box valve with of Graphite can be operated to 1200°F (649°C).

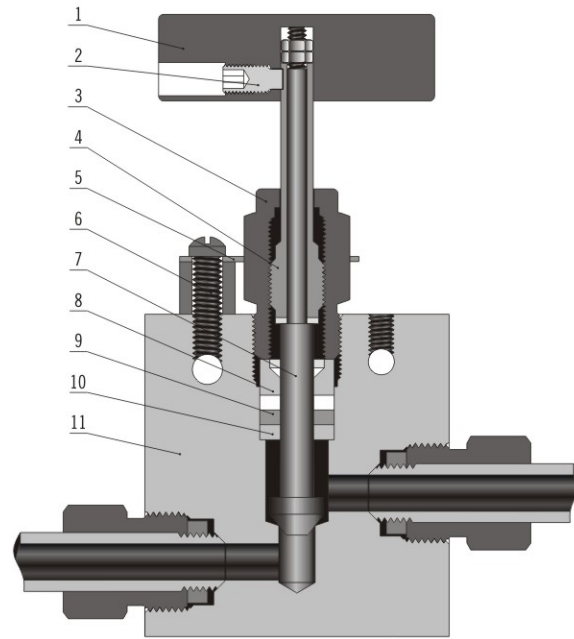
Flow Data at 100°F (38°C)



Pressure & Temperature

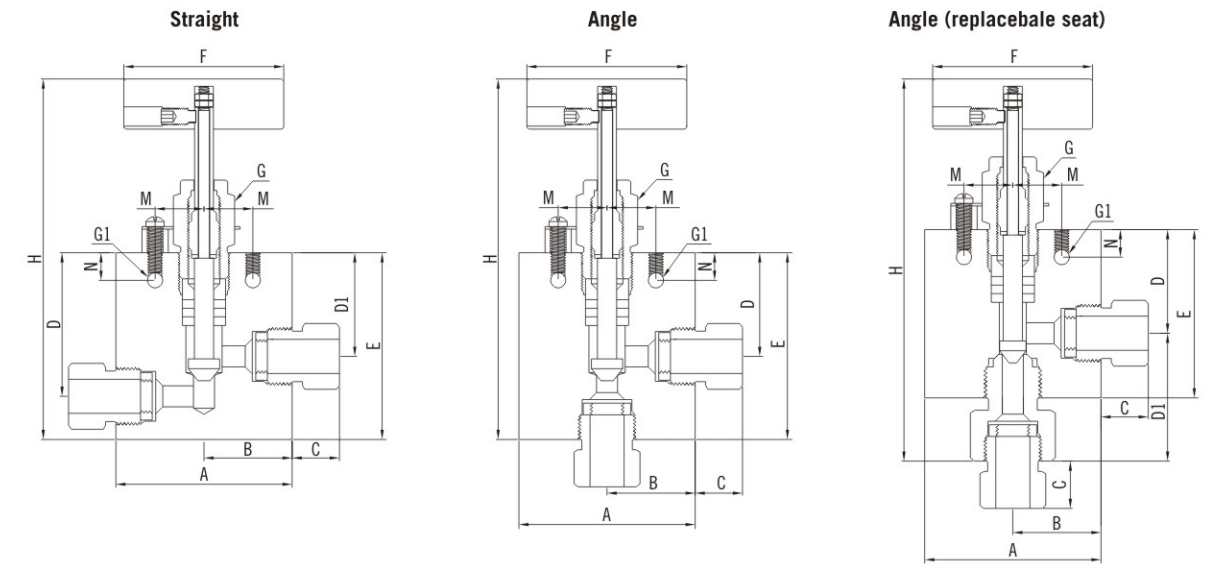


Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Handle Screw	Stainless steel
3	Packing Gland	C63000/B150
4	Sleeve	316 SS/479
5	Locking Plate	304 SS/A240
6	Locking Screw	Stainless steel
7	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	Outside Diameter Tube Size in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V20SS-S4-1	1/4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.65)	1.62 (41.15)	1.19 (30.23)	2.00 (50.8)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	4.69 (119.1)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S6-1	3/8	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.94)	1.62 (41.15)	1.19 (30.23)	2.00 (50.8)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	4.69 (119.1)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S9-1	9/16	0.312 (7.92)	2.50 (63.5)	1.25 (31.75)	0.53 (13.46)	2.38 (60.45)	1.75 (44.45)	2.88 (73.15)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	5.93 (150.9)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	
V20SS-S12-1	3/4	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.75)	3.00 (76.2)	2.25 (57.15)	3.75 (95.25)	10.25 (260.4)	1.12 (28.45)	0.44 (11.18)	7.00 (177.8)	0.88 (22.35)	0.63 (16.0)	1.38 (35.05)	
V20SS-S16-1	1	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.00)	3.75 (95.25)	2.81 (71.37)	4.63 (117.6)	10.25 (260.4)	1.62 (41.15)	0.56 (14.22)	9.00 (228.6)	1.25 (31.75)	1.13 (28.7)	1.75 (44.45)	

Dimensions (Angle)

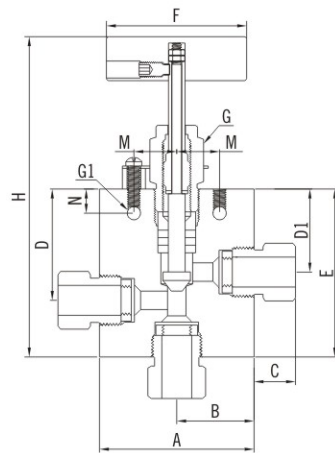
Ordering Number	Outside Diameter Tube Size in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V20SS-S4-2	1/4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.65)	1.19 (30.23)		2.44 (61.9)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	4.81 (122.3)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S6-2	3/8	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.94)	1.19 (30.23)		2.44 (61.9)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	4.81 (122.3)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S9-2	9/16	0.312 (7.92)	2.50 (63.5)	1.25 (31.75)	0.53 (13.46)	1.75 (44.45)		3.38 (85.85)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	6.43 (163.6)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	
V20SS-S12-2	3/4	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.75)	2.25 (57.15)		4.25 (108.0)	10.25 (260.4)	1.12 (28.45)	0.44 (11.18)	7.50 (190.5)	0.88 (22.35)	0.63 (16.0)	1.38 (35.05)	
V20SS-S16-2	1	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.00)	2.81 (71.37)		5.12 (130.1)	10.25 (260.4)	1.62 (41.15)	0.56 (14.22)	9.00 (228.6)	1.25 (31.75)	1.13 (28.7)	1.75 (44.45)	

Dimensions (Angle/replaceable seat)

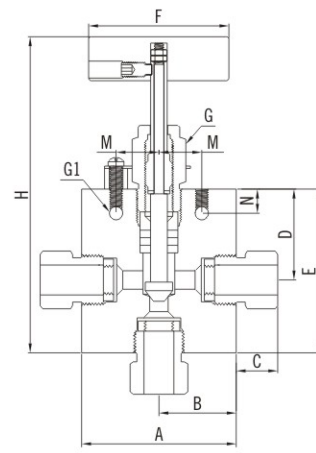
Ordering Number	Outside Diameter Tube Size in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V20SS-S4-3	1/4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.65)	1.19 (30.23)	2.13 (53.98)	2.25 (57.15)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.75 (146.1)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S6-3	3/8	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.94)	1.19 (30.23)	2.13 (53.98)	2.25 (57.15)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.75 (146.1)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S9-3	9/16	0.312 (7.92)	2.50 (63.5)	1.25 (31.75)	0.53 (13.46)	1.75 (44.45)	2.50 (63.5)	3.13 (79.38)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	7.43 (186.7)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	
V20SS-S12-3	3/4	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.75)	2.25 (57.15)	3.44 (87.38)	4.25 (108.0)	10.25 (260.4)	1.12 (28.45)	0.44 (11.18)	9.00 (228.6)	0.88 (22.35)	0.63 (16.0)	1.38 (35.05)	
V20SS-S16-3	1	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.00)	2.69 (68.33)	4.38 (111.1)	5.25 (133.4)	10.25 (260.4)	1.62 (41.15)	0.56 (14.22)	11.00 (279.7)	1.25 (31.75)	1.13 (28.7)	1.75 (44.45)	

Dimensions

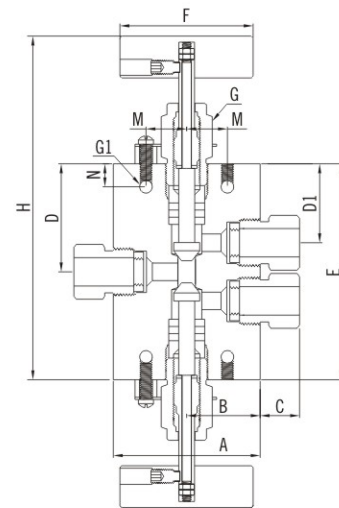
3-way/2 on pressure



3-way/1 on pressure



3-way/2 stem manifold



Dimensions (3-way/1 on pressure)

Ordering Number	Outside Diameter Tube Size in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V20SS-S4-5	1/4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.65)	1.19 (30.23)		2.44 (61.9)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	4.81 (122.3)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S6-5	3/8	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.94)	1.19 (30.23)		3.38 (85.85)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	4.81 (122.3)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S9-5	9/16	0.312 (7.92)	2.50 (63.5)	1.25 (31.75)	0.53 (13.46)	1.75 (44.45)		5.13 (130.2)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	6.31 (160.5)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	
V20SS-S12-5	3/4	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.75)	2.25 (57.15)		6.50 (165.1)	10.25 (260.4)	1.12 (28.45)	0.44 (11.18)	7.50 (190.5)	0.88 (22.35)	0.63 (16.0)	1.38 (35.05)	
V20SS-S16-5	1	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.00)	2.81 (71.37)		7.50 (190.5)	10.25 (260.4)	1.62 (41.15)	0.56 (14.22)	9.09 (231.1)	1.25 (31.75)	1.13 (28.7)	1.75 (44.45)	

Dimensions (3-way/2 stem manifold)

Ordering Number	Outside Diameter Tube Size in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V20SS-S4-6	1/4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.65)	1.69 (42.85)	1.19 (30.23)	3.38 (85.73)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	8.13 (206.4)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S6-6	3/8	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.94)	1.69 (42.85)	1.19 (30.23)	3.38 (85.73)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	8.13 (206.4)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S9-6	9/16	0.312 (7.92)	2.50 (63.5)	1.25 (31.75)	0.53 (13.46)	2.56 (65.07)	1.75 (44.45)	5.13 (130.2)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	11.31 (287.6)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	
V20SS-S12-6	3/4	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.75)	3.00 (76.2)	2.25 (57.15)	6.50 (165.1)	10.25 (260.4)	1.12 (28.45)	0.44 (11.18)	13.0 (330.2)	0.88 (22.35)	0.63 (16.0)	1.38 (35.05)	
V20SS-S16-6	1	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.00)	3.75 (95.25)	2.81 (71.37)	7.50 (190.5)	10.25 (260.4)	1.62 (41.15)	0.56 (14.22)	15.44 (392.4)	1.25 (31.75)	1.13 (28.7)	1.75 (44.45)	

Note:

- G is the drill dimension of packing gland mounting hole.
- G1 is the dimension of bracket mounting hole.
- Panel mounting drill size: 0.22" 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 FD-LOK.

Dimensions (3-way/2 on pressure)

Ordering Number	Outside Diameter Tube Size in.	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
V20SS-S4-4	1/4	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.38 (9.65)	1.63 (41.28)	1.19 (30.23)	2.63 (66.68)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.00 (127.0)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S6-4	3/8	0.219 (5.56)	2.00 (50.8)	1.00 (25.4)	0.47 (11.94)	1.63 (41.28)	1.19 (30.23)	2.63 (66.68)	3.00 (76.2)	0.75 (19.05)	0.22 (5.59)	5.00 (127.0)	0.62 (15.75)	0.38 (9.65)	0.75 (19.05)	
V20SS-S9-4	9/16	0.312 (7.92)	2.50 (63.5)	1.25 (31.75)	0.53 (13.46)	2.38 (60.45)	1.75 (44.45)	3.63 (92.08)	4.00 (101.6)	1.00 (25.4)	0.34 (8.64)	6.51 (165.6)	0.69 (17.53)	0.50 (12.7)	1.00 (25.4)	
V20SS-S12-4	3/4	0.438 (11.13)	3.00 (76.2)	1.50 (38.1)	0.62 (15.75)	3.00 (76.2)	2.25 (57.15)	4.63 (117.5)	10.25 (260.4)	1.12 (28.45)	0.44 (11.18)	7.88 (200.0)	0.88 (22.35)	0.63 (16.0)	1.38 (35.05)	
V20SS-S16-4	1	0.562 (14.27)	4.12 (104.6)	2.06 (52.3)	0.63 (16.00)	3.75 (95.25)	2.81 (71.37)	5.88 (149.4)	10.25 (260.4)	1.62 (41.15)	0.56 (14.22)	9.75 (247.9)	1.25 (31.75)	1.13 (28.7)	1.75 (44.45)	

V30 Series 30,000 psi (2068 bar)

Features

- Tubing size from 1/4" to 9/16".
- Non-rotating stem and bar stock body design.
- Easy to assemble and replace packing
- Metal-to-metal seating achieves ideal shut off, 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.
- Extend stuffing box valve with of Graphite can be operated to 1200°F (649°C).
- The material of packing gland and stem sleeve have been selected to achieve reduced handle torque and extended thread cycle life.
- The material of body is 316 SS, The material of stem is 17-4PH SS.
- Options for Vee or Regulating stem tips.
- The locking device of packing gland is reliable.
- Five flow patterns are available.

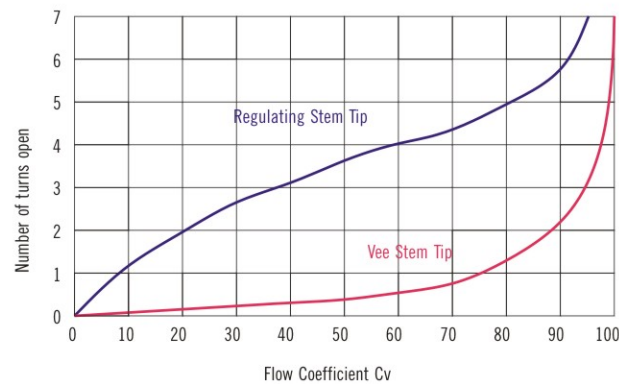
Technical Data

Tube O.D. in.	Orifice in. (mm)	Rated Cv	Pressure @ Room Temperature psi (bar)
1/4	0.094 (2.39)	0.12	30,000 (2068)
3/8	0.125 (3.18)	0.23	30,000 (2068)
9/16	0.125 (3.18)	0.33	30,000 (2068)

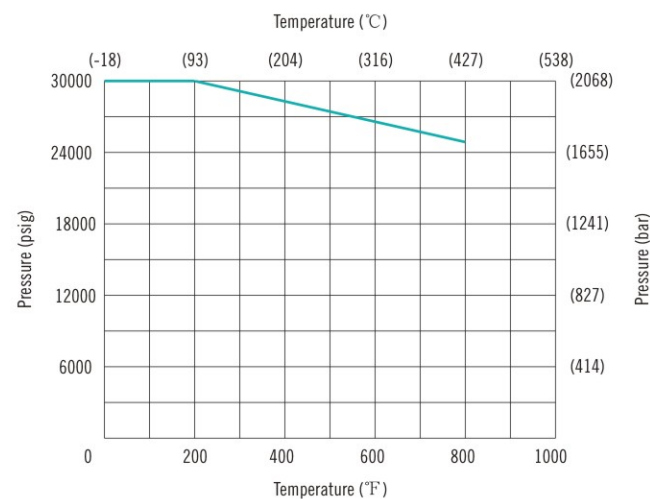
Notes:

- 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 FD-LOK Needle Valve; RPTFE glass, Graphite and Extend stuffing box valve with graphite 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).
- Normal Needle valve with Graphite packing can be operated to 800°F (427°C).
- Extend stuffing box valve with of Graphite can be operated to 1200°F (649°C).

Flow Data at 100°F (38°C)

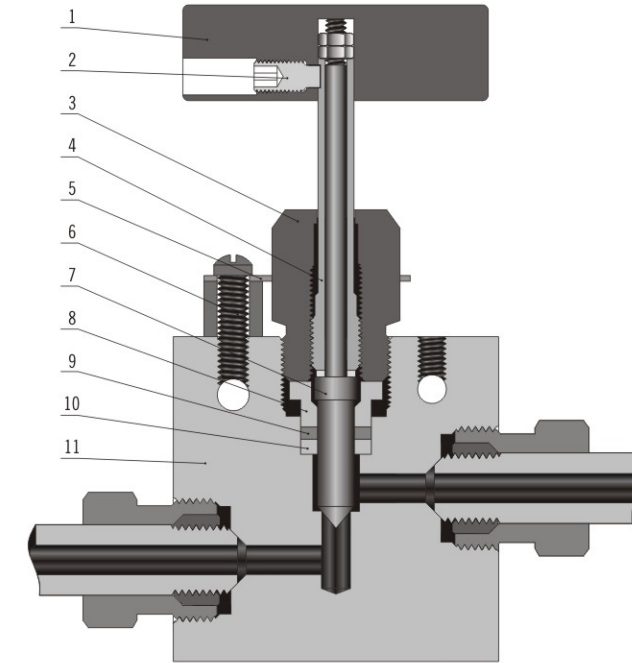


Pressure & Temperature



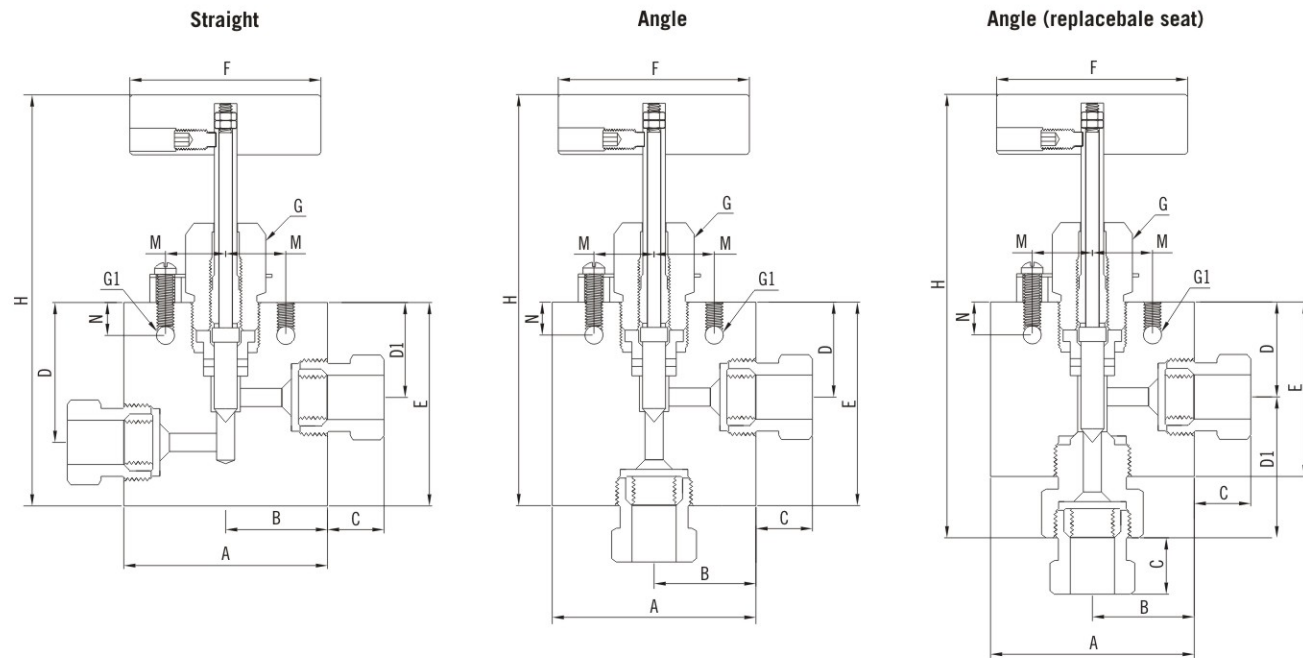
V30 Series 30,000 psi (2068 bar)

Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Handle Screw	Stainless steel
3	Packing Gland	C63000/B150
4	Sleeve	316 SS/479
5	Locking Plate	304 SS/A240
6	Locking Screw	Stainless steel
7	Stem	17-4PH/A564
8	Packing Ring	17-4PH/A564
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	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V30SS-S4-1	1/4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.50 (38.1)	1.12 (28.45)	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.62 (117.4)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S6-1	3/8	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.50 (38.1)	1.12 (28.45)	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.68 (118.9)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S9-1	9/16	0.125 (3.18)	2.62 (66.55)	1.31 (33.27)	0.81 (20.57)	1.56 (39.62)	1.12 (28.45)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	5.06 (128.5)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)	

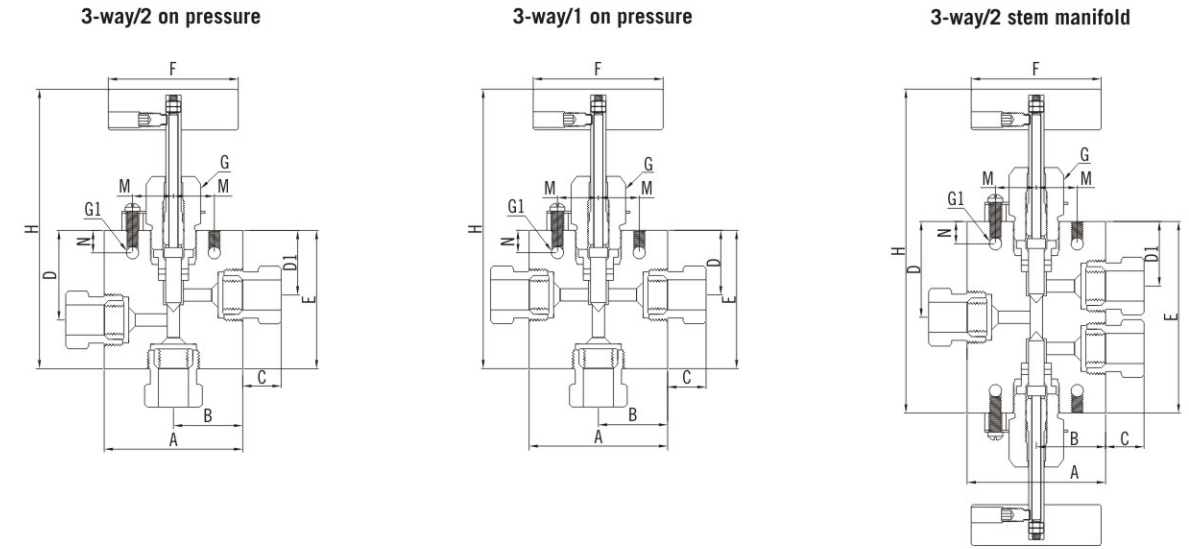
Dimensions (Angle)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V30SS-S4-2	1/4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.12 (28.45)		2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.62 (117.4)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S6-2	3/8	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.12 (28.45)		2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.68 (118.9)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S9-2	9/16	0.125 (3.18)	2.62 (66.55)	1.31 (33.27)	0.81 (20.57)	1.12 (28.45)		2.44 (61.98)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	5.06 (128.5)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

Dimensions (Angle/replaceable seat)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V30SS-S4-3	1/4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.12 (28.45)	2.06 (52.32)	2.38 (60.45)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	5.80 (147.3)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S6-3	3/8	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.12 (28.45)	2.31 (58.67)	2.38 (60.45)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	6.05 (153.7)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S9-3	9/16	0.125 (3.18)	2.62 (66.55)	1.31 (33.27)	0.81 (20.57)	1.19 (30.23)	2.62 (66.55)	2.44 (61.98)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	6.45 (163.8)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

Dimensions



Dimensions (3-way/2 on pressure)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V30SS-S4-4	1/4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.50 (38.1)	1.12 (28.45)	2.12 (53.85)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.74 (120.4)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S6-4	3/8	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.50 (38.1)	1.12 (28.45)	2.50 (63.5)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	5.12 (130.1)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S9-4	9/16	0.125 (3.18)	2.62 (66.55)	1.31 (33.27)	0.81 (20.57)	1.56 (39.62)	1.12 (28.45)	2.88 (73.15)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	5.49 (139.5)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

Dimensions (3-way/1 on pressure)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V30SS-S4-5	1/4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.12 (28.45)	2.06 (52.32)	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.62 (117.4)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S6-5	3/8	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.12 (28.45)	2.31 (58.67)	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.74 (120.4)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S9-5	9/16	0.125 (3.18)	2.62 (66.55)	1.31 (33.27)	0.81 (20.57)	1.12 (28.45)	2.62 (66.55)	2.44 (61.98)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	5.12 (130.1)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

Dimensions (3-way/2 stem manifold)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V30SS-S4-6	1/4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.53 (38.86)	1.12 (28.45)	3.06 (77.72)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	5.68 (144.3)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S6-6	3/8	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.62 (41.15)	1.12 (28.45)	3.25 (82.55)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	5.87 (149.1)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V30SS-S9-6	9/16	0.125 (3.18)	2.62 (66.55)	1.31 (33.27)	0.81 (20.57)	1.88 (47.75)	1.12 (28.45)	3.75 (95.25)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	6.37 (161.8)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

Note:

- G is the drill dimension of packing gland mounting hole.
- G1 is the dimension of bracket mounting hole.
- Panel mounting drill size: 0.22" 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 FD-LOK.

Features

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

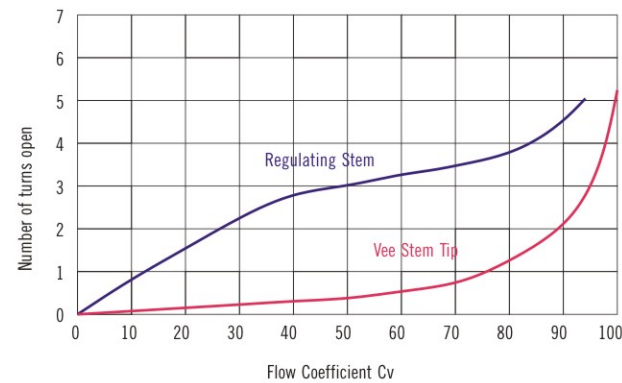
Technical Data

Tube O.D. in.	Orifice in. (mm)	Rated Cv	Pressure @ Room Temperature psi (bar)
1/4	0.062 (1.57)	0.08	60,000 (4137)
3/8	0.062 (1.57)	0.09	60,000 (4137)
9/16	0.078 (1.98)	0.14	60,000 (4137)

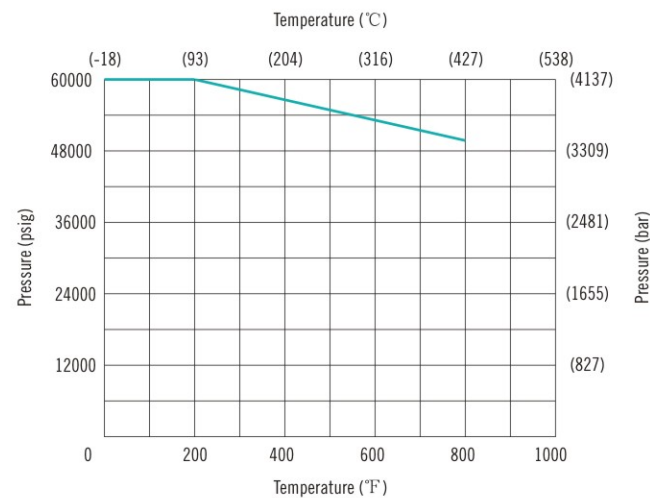
Notes:

- 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 FD-LOK Needle Valve; RPTFE glass, Graphite and Extend stuffing box valve with graphite also available.
Normal Needle valve with Nylon packing can be operated to 230°F (110°C).
Normal Needle valve with RPTFE glass packing can be operated to 600°F (316°C).
Normal Needle valve with Graphite packing can be operated to 800°F (427°C).
Extend stuffing box valve with of Graphite can be operated to 1200°F (649°C).

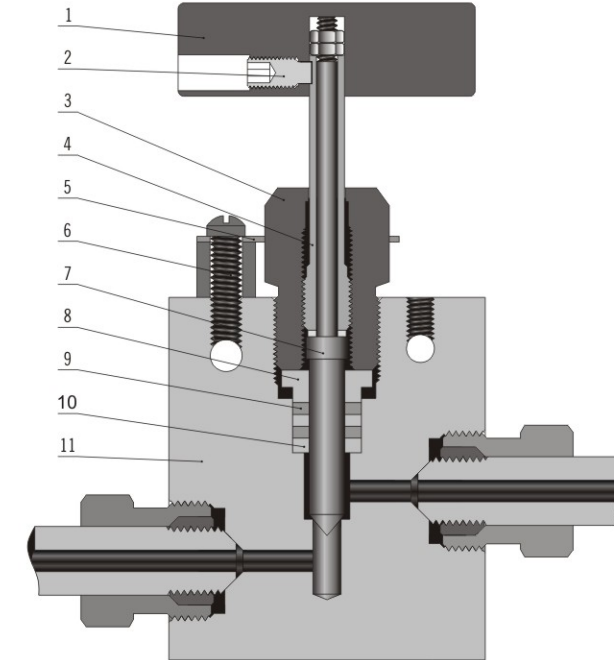
Flow Data at 100°F (38°C)



Pressure & Temperature



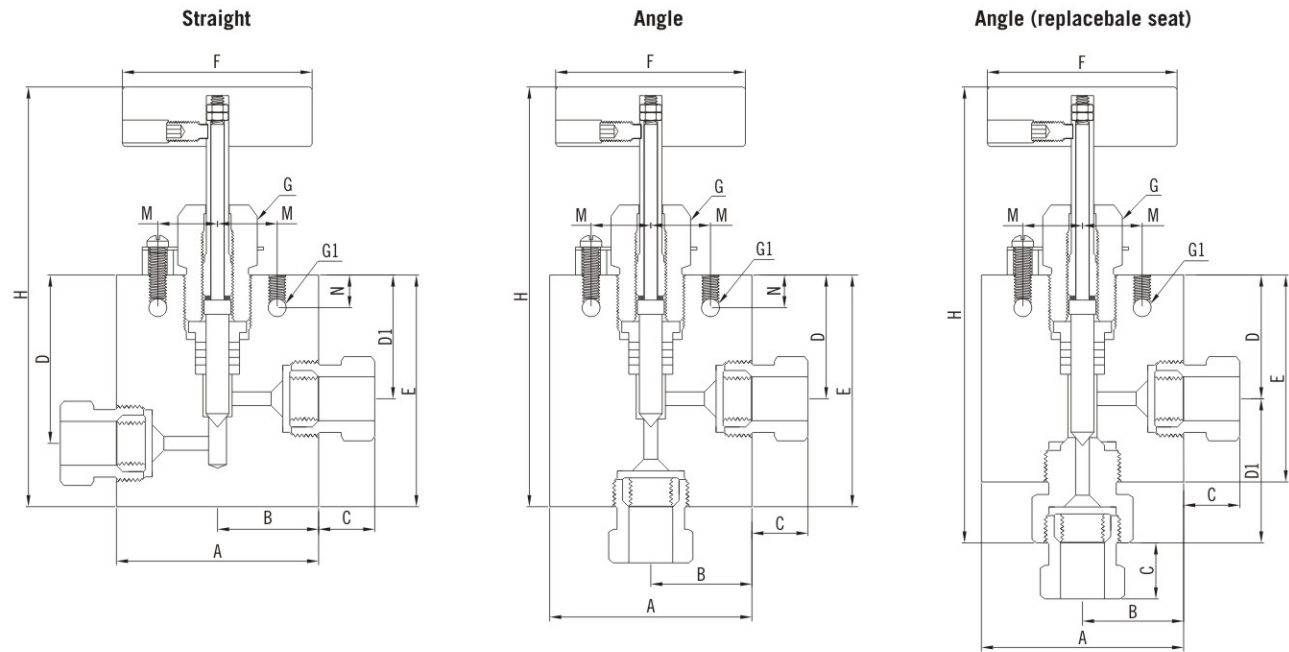
Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Handle	Stainless steel
2	Handle Screw	Stainless steel
3	Packing Gland	C63000/B150
4	Sleeve	316 SS/479
5	Locking Plate	304 SS/A240
6	Locking Screw	Stainless steel
7	Stem	17-4PH/A564
8	Packing Ring	17-4PH/A564
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

Standard Materials of Construction

Dimensions



Dimensions (Straight)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V60SS-S4-1	1/4	0.062 (1.57)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.69 (42.93)	1.31 (33.27)	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.75 (120.7)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S6-1	3/8	0.062 (1.57)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.69 (42.93)	1.31 (33.27)	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.75 (120.7)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S9-1	9/16	0.078 (1.98)	2.62 (66.55)	1.31 (33.27)	0.72 (18.29)	1.75 (44.45)	1.31 (33.27)	2.50 (63.5)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	5.13 (130.3)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

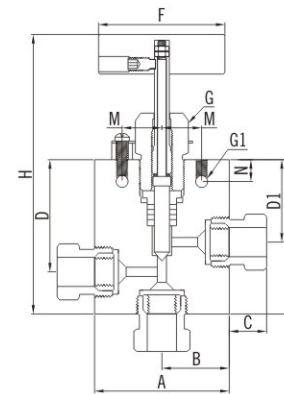
Dimensions (Angle)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V60SS-S4-2	1/4	0.062 (1.57)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.31 (33.27)		2.38 (60.45)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	5.00 (127.0)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S6-2	3/8	0.062 (1.57)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.31 (33.27)		2.62 (66.55)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	5.25 (133.4)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S9-2	9/16	0.078 (1.98)	2.62 (66.55)	1.31 (33.27)	0.72 (18.29)	1.31 (33.27)		2.81 (71.37)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	5.44 (138.2)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

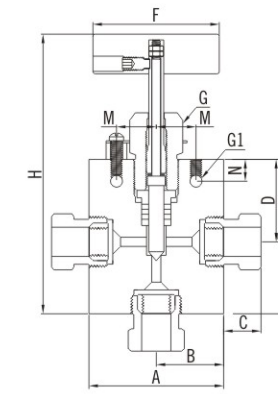
Dimensions (Angle/replaceable seat)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V60SS-S4-3	1/4	0.062 (1.57)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.31 (33.27)	2.12 (53.85)	2.38 (60.45)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	6.28 (159.5)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S6-3	3/8	0.062 (1.57)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.31 (33.27)	2.36 (59.94)	2.62 (66.55)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	6.52 (165.6)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S9-3	9/16	0.078 (1.98)	2.62 (66.55)	1.31 (33.27)	0.72 (18.29)	1.31 (33.27)	2.68 (68.07)	2.62 (66.55)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	6.90 (175.3)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

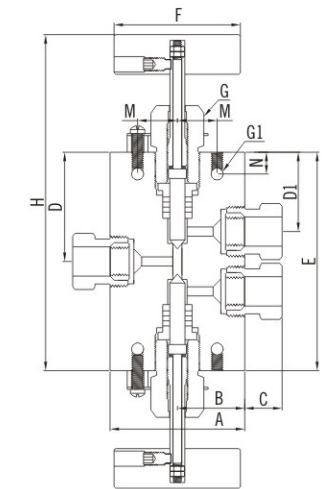
3-way/2 on pressure



3-way/1 on pressure



3-way/2 stem manifold



Dimensions (3-way/2 on pressure)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V60SS-S4-4	1/4	0.062 (1.57)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.69 (42.93)	1.31 (33.27)	2.38 (60.45)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.75 (120.7)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S6-4	3/8	0.062 (1.57)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.69 (42.93)	1.31 (33.27)	2.75 (68.86)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	4.75 (120.7)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S9-4	9/16	0.078 (1.98)	2.62 (66.55)	1.31 (33.27)	0.72 (18.29)	1.75 (44.45)	1.31 (33.27)	3.03 (76.96)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	5.13 (130.3)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

Dimensions (3-way/1 on pressure)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V60SS-S4-5	1/4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.31 (33.27)		2.38 (60.45)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	5.00 (127.0)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S6-5	3/8	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.31 (33.27)		2.62 (66.55)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	5.25 (133.4)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S9-5	9/16	0.125 (3.18)	2.62 (66.55)	1.31 (33.27)	0.72 (18.29)	1.31 (33.27)		2.81 (71.37)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	5.44 (138.2)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

Dimensions (3-way/2 stem manifold)

Ordering Number	Tube OD in.	Orifice in. (mm)	in. (mm)												Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N	
V60SS-S4-6	1/4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.72 (43.68)	1.31 (33.27)	3.44 (87.38)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	6.07 (154.2)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S6-6	3/8	0.125 (3.18)	2.00 (50.8)	1.00 (25.4)	0.53 (13.5)	1.88 (47.75)	1.31 (33.27)	3.75 (95.25)	3.00 (76.2)	1.00 (25.4)	0.22 (5.59)	6.37 (161.8)	0.69 (17.53)	0.38 (9.65)	1.00 (25.4)
V60SS-S9-6	9/16	0.125 (3.18)	2.62 (66.55)	1.31 (33.27)	0.72 (18.29)	2.06 (52.32)	1.31 (33.27)	4.12 (104.7)	3.00 (76.2)	1.00 (25.4)	0.28 (7.11)	6.37 (161.8)	0.69 (17.53)	0.38 (9.65)	1.50 (38.1)

Note:

- G is the drill dimension of packing gland mounting hole.
- G1 is the dimension of bracket mounting hole.
- Panel mounting drill size: 0.22" 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 FD-LOK.

Ordering Information

V15SS - S4 - RG2

