

Low Pressure Needle Valve

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



- ❖ Maximum working pressure up to 15,000 psig (1034 bar)
- ❖ Working temperature from -325°F to 1200°F (-198°C to 649°C)
- ❖ Non-rotating stem and bar stock body design
- ❖ Tubing sizes available for 1/8", 1/4", 3/8", 1/2"
- ❖ 316 stainless steel body material

Features

- ❖ Tubing sizes available for 1/8", 1/4", 3/8", 1/2"
- ❖ Non-rotating stem and rising stem design
- ❖ Metal-to-metal seating achieves bubble-tight shutoff, longer stem/seat service life in abrasive flow, greater durability for repeated on/off cycles
- ❖ PTFE is the standard packing material, RPTFE glass, Graphite are available
- ❖ Graphite packing working Temperatures up to 1200°F (649°C)
- ❖ Stem sleeve and packing gland materials have been selected to achieve extended thread cycle life and reduced handle torque
- ❖ Cold-worked type 316 stainless steel body and aluminum bronze packing gland
- ❖ Vee or Regulating stem tips for options
- ❖ Packing below the thread of valve stem
- ❖ The locking device of packing gland is reliable
- ❖ Five body patterns are available

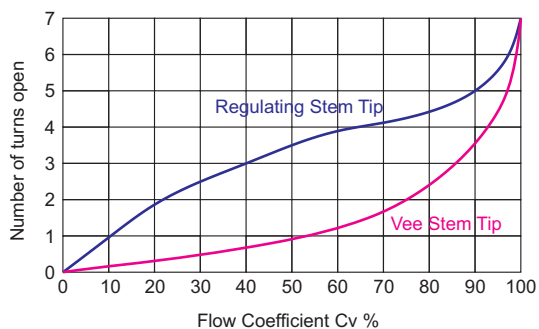
Technical Data

Connection Size	Connection Type	Orifice in. (mm)	Cv	Working Pressure psig (bar)
1/8" OD.	LPF2	0.094 (2.39)	0.12	15,000 (1034)
1/4" OD.	LPF4	0.188 (4.77)	0.65	15,000 (1034)
3/8" OD.	LPF6	0.250 (6.35)	0.95	15,000 (1034)
1/2" OD.	LPF8	0.375 (9.53)	1.90	15,000 (1034)
1/8	NPT/BSPT	0.078 (1.98)	0.11	15,000 (1034)
1/4	NPT/BSPT	0.203 (5.16)	0.63	15,000 (1034)
3/8	NPT/BSPT	0.219 (5.56)	0.75	15,000 (1034)
1/2	NPT/BSPT	0.312 (7.92)	1.30	15,000 (1034)

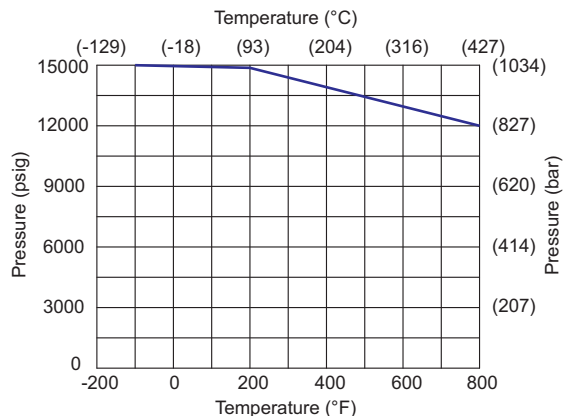
Notes:

- ❖ Cv value shown are for 2-way straight valve pattern.
Cv value of for 2-way angle pattern will be increase about 50% (Base on water).
- ❖ Working Temperatures
PTFE packing : -100°F (-73°C) to 450°F (232°C).
RPTFE glass packing : -100°F (-73°C) to 600°F (316°C).
Graphite packing : -100°F (-73°C) to 1200°F (649°C).

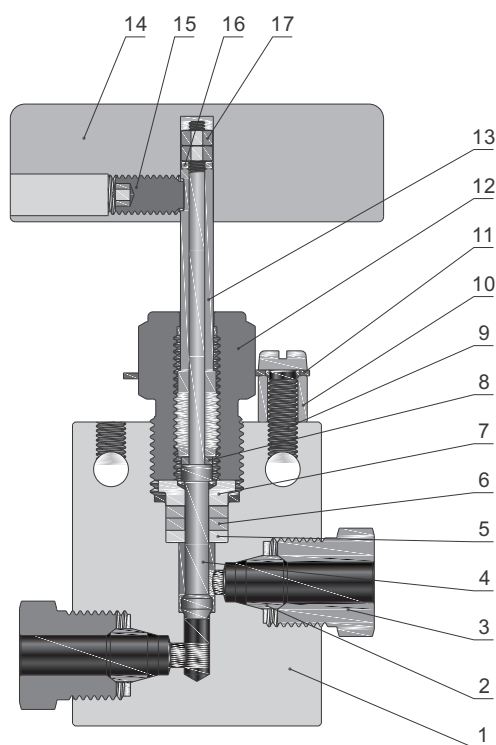
Flow Data at 100°F (38°C)



Pressure & Temperature

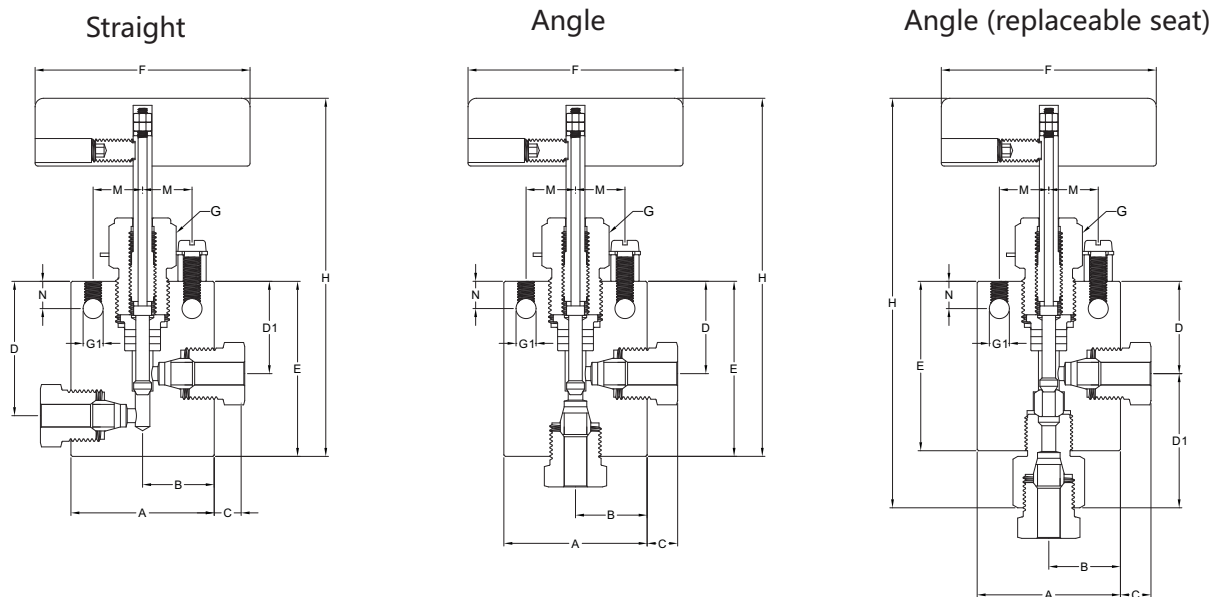


Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Body	316 S.S./A479
2	Ferrule	316 S.S./A479
3	Nut	316 S.S./A479
4	Stem	S17400/A564
5	Gland	316 S.S./A479
6	Packing	PTFE/RPTFE/GRAPHITE/Extend stuffing box valve with of Graphite
7	Packing ring	316 S.S./A479
8	Gland	316 S.S./A479
9	Screw	304 S.S.
10	Ring	316 S.S./A276
11	Lock plate	304 S.S./A240
12	Bonnet	316 S.S./A479
13	Stem guard	316 S.S./A479
14	Handle	Aluminum
15	Screw	304 S.S.
16	Gland	316 S.S./A276
17	Nut	304 S.S.

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
15NV-LPF2-	LPF2	0.094 (2.39)	1.50 (38.1)	0.75 (19.1)	0.31 (7.90)	1.06 (26.9)	0.81 (206)	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)
15NV-LPF4-	LPF4	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)
15NV-LPF6-	LPF6	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)
15NV-LPF8-	LPF8	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)

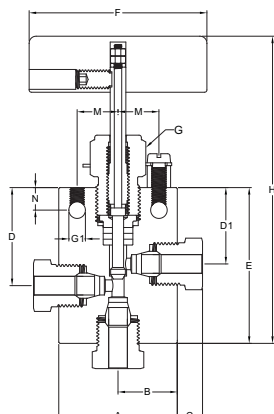
Dimensions (Angle)

Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)												
			A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
15NV-LPF2-A-	LPF2	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)
15NV-LPF4-A-	LPF4	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)
15NV-LPF6-A-	LPF6	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)
15NV-LPF8-A-	LPF8	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)

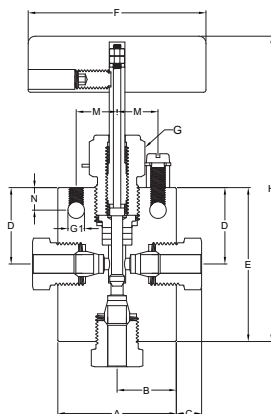
Dimensions (Angle/replaceable seat)

Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)												
			A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
15NV-LPF2-AR-	LPF2	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)
15NV-LPF4-AR-	LPF4	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)
15NV-LPF6-AR-	LPF6	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)
15NV-LPF8-AR-	LPF8	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)

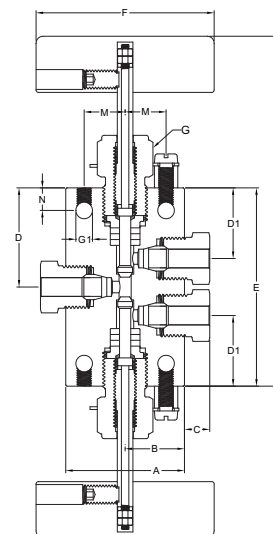
3-way/2 on pressure



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)												
15NV-LPF2-3A-	LPF2	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)
15NV-LPF4-3A-	LPF4	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)
15NV-LPF6-3A-	LPF6	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)
15NV-LPF8-3A-	LPF8	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)

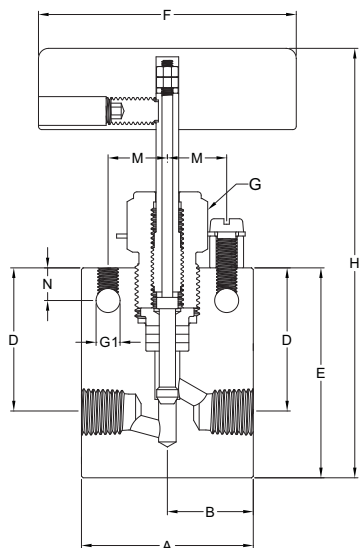
Dimensions (3-way/1 on pressure)

Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NV-LPF2-3B-	LPF2	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)
15NV-LPF4-3B-	LPF4	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)
15NV-LPF6-3B-	LPF6	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)
15NV-LPF8-3B-	LPF8	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)

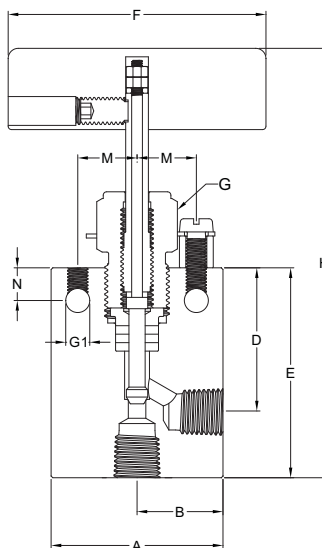
Dimensions (3-way/2 stem manifold)

Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
15NV-LPF2-3C-	LPF2	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)
15NV-LPF4-3C-	LPF4	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)
15NV-LPF6-3C-	LPF6	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)
15NV-LPF8-3C-	LPF8	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)

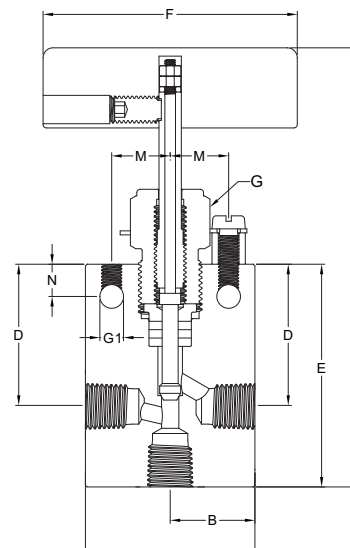
Straight



Angle



3-way/2 on pressure



Dimensions (Straight)

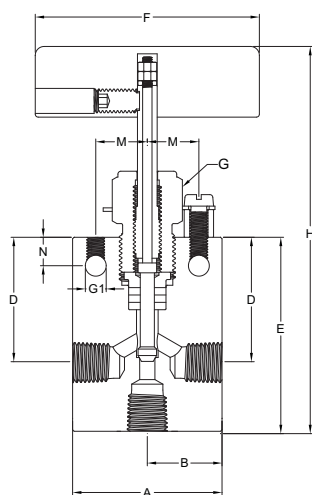
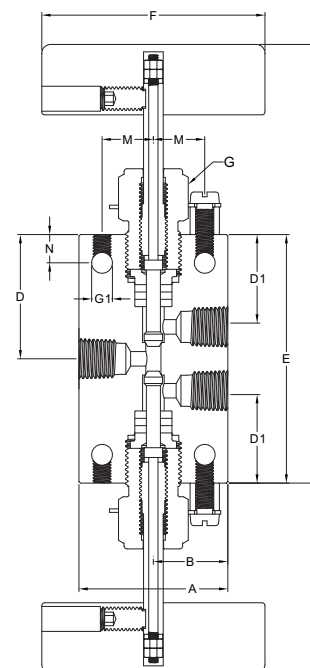
Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)												
			A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
15NV-FNPT2-	FNPT2	0.078 (1.98)	1.50 (38.1)	0.75 (19.1)	—	0.82 (20.6)	—	1.25 (31.8)	1.75 (44.5)	0.56 (14.2)	0.17 (4.3)	2.53 (64.3)	0.56 (14.2)	0.31 (7.9)	0.63 (15.9)
15NV-FBT2-	FBT2														
15NV-FNPT4-	FNPT4	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)
15NV-FBT4-	FBT4														
15NV-FNPT6-	FNPT6	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)
15NV-FBT6-	FBT6														
15NV-FNPT8-	FNPT8	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)
15NV-FBT8-	FBT8														

Dimensions (Angle)

Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)												
			A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
15NV-FNPT2-A-	FNPT2	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)	0.17 (4.3)	2.66 (67.6)	0.56 (14.2)	0.31 (7.9)	0.63 (15.9)
15NV-FBT2-A-	FBT2														
15NV-FNPT4-A-	FNPT4	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)
15NV-FBT4-A-	FBT4														
15NV-FNPT6-A-	FNPT6	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)
15NV-FBT6-A-	FBT6														
15NV-FNPT8-A-	FNPT8	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)
15NV-FBT8-A-	FBT8														

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)												
15NV-FNPT2-3A-	FNPT2	0.078 (1.98)	1.50	0.75	—	0.82	—	1.57	1.75	0.56	0.17	2.86	0.56	0.31	0.63
15NV-FBT2-3A-	FBT2		(38.1)	(19.1)	(20.6)	(40.0)	(44.5)	(14.2)	(4.3)	(72.6)	(14.2)	(7.9)	(15.9)		
15NV-FNPT4-3A-	FNPT4	0.203 (5.2)	2.00	1.00	—	1.41	—	2.62	3.00	0.75	0.22	5.00	0.62	0.38	0.75
15NV-FBT4-3A-	FBT4		(50.8)	(25.4)	(35.8)	(66.6)	(76.2)	(19.1)	(5.6)	(127.0)	(15.8)	(9.7)	(19.1)		
15NV-FNPT6-3A-	FNPT6	0.219 (5.56)	2.50	1.25	—	1.41	—	2.62	3.00	0.75	0.22	5.00	0.62	0.38	1.00
15NV-FBT6-3A-	FBT6		(63.5)	(31.8)	(35.8)	(66.6)	(76.2)	(19.1)	(5.6)	(127.0)	(15.8)	(9.7)	(25.4)		
15NV-FNPT8-3A-	FNPT8	0.312 (7.92)	3.00	1.50	—	2.06	—	3.62	4.00	1.00	0.34	6.52	0.69	0.50	1.38
15NV-FBT8-3A-	FBT8		(76.2)	(38.1)	(52.3)	(92.0)	(101.6)	(25.4)	(8.6)	(165.6)	(17.5)	(12.7)	(35.1)		

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)												
15NV-FNPT2-3B-	FNPT2	0.078 (1.98)	1.50	0.75	—	0.82	—	1.38	1.75	0.56	0.17	2.86	0.56	0.31	0.63
15NV-FBT2-3B-	FBT2		(38.1)	(19.1)	(20.6)	(35.0)	(44.5)	(14.2)	(4.3)	(72.6)	(14.2)	(7.9)	(15.9)		
15NV-FNPT4-3B-	FNPT4	0.203 (5.2)	2.00	1.00	—	1.41	—	2.44	3.00	0.75	0.22	4.81	0.62	0.38	0.75
15NV-FBT4-3B-	FBT4		(50.8)	(25.4)	(35.8)	(62.0)	(76.2)	(19.1)	(5.6)	(122.2)	(15.8)	(9.7)	(19.1)		
15NV-FNPT6-3B-	FNPT6	0.219 (5.56)	2.50	1.25	—	1.41	—	2.44	3.00	0.75	0.22	4.81	0.62	0.38	1.00
15NV-FBT6-3B-	FBT6		(63.5)	(31.8)	(35.8)	(62.0)	(76.2)	(19.1)	(5.6)	(122.2)	(15.8)	(9.7)	(25.4)		
15NV-FNPT8-3B-	FNPT8	0.312 (7.92)	3.00	1.50	—	2.06	—	3.38	4.00	1.00	0.34	6.31	0.69	0.50	1.38
15NV-FBT8-3B-	FBT8		(76.2)	(38.1)	(52.3)	(85.9)	(101.6)	(25.4)	(8.6)	(160.3)	(17.5)	(12.7)	(35.1)		

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)												
15NV-FNPT2-3C-	FNPT2	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)	0.17 (4.3)	3.30 (83.8)	0.56 (14.2)	0.31 (7.9)	0.63 (15.9)
15NV-FBT2-3C-	FBT2														
15NV-FNPT4-3C-	FNPT4	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)	0.75 (19.1)
15NV-FBT4-3C-	FBT4														
15NV-FNPT6-3C-	FNPT6	0.219 (5.56)	2.50 (63.5)	1.25 (31.8)	—	1.69 (65.1)	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)	1.00 (25.4)
15NV-FBT6-3C-	FBT6														
15NV-FNPT8-3C-	FNPT8	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)	1.38 (35.1)
15NV-FBT8-3C-	FBT8														

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. The dimension of stem in closed position.

How to Order

15NV — LPF4 — R — R — A — 316

Series	Connector Sizes	Stem Tips	Packing	Flow Patterns	Body Material			
15NV	LPF2 1/8"	Vee	PTFE	Straight	316 316 S.S. A825 Alloy 825			
	LPF4 1/4"					R Regulating	R RPTFE Glass	A Angle
	LPF6 3/8"	G Graphite	AR Angle, replaceable seat					
	LPF8 1/2"			3A 3-way, 2 on pressure				
	FNPT2 1/8 Female NPT							
	FNPT4 1/4 Female NPT	3C 3-way, 2 stem manifold						
	FNPT6 3/8 Female NPT							
	FNPT8 1/2 Female NPT							
	FBT2 1/8 Female BSPT							
	FBT4 1/4 Female BSPT							
	FBT6 3/8 Female BSPT							
	FBT8 1/2 Female BSPT							