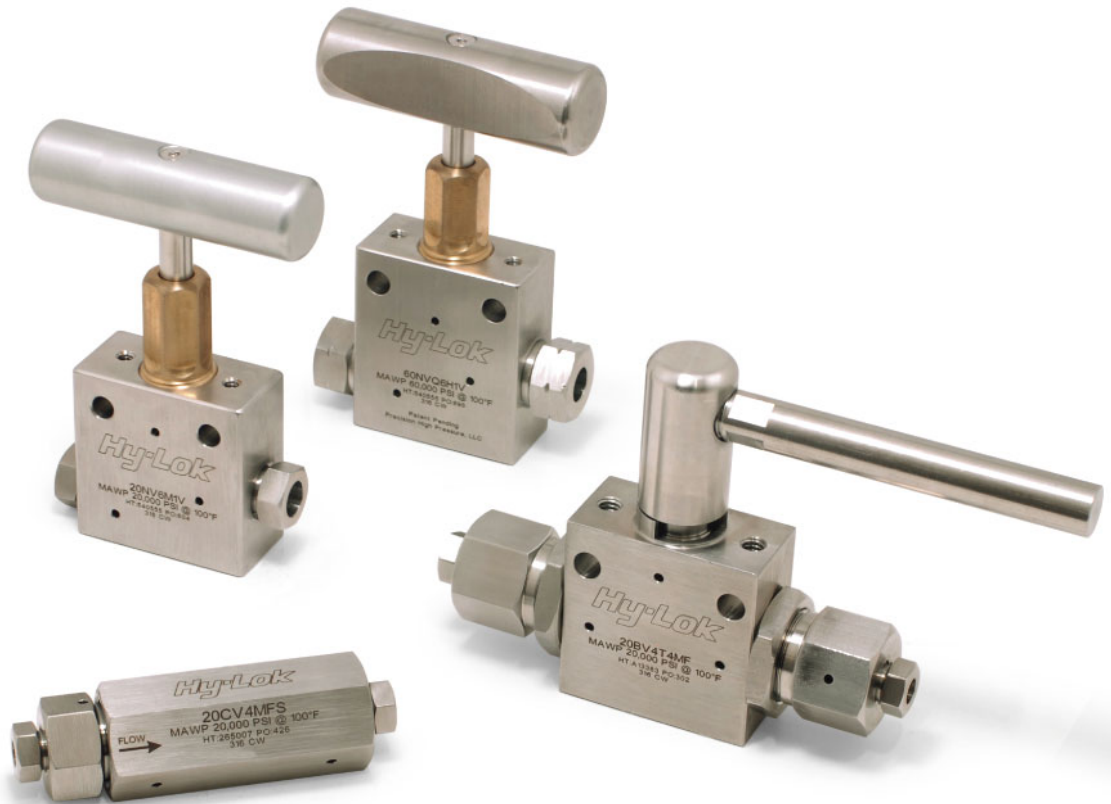




Catalog No, H-HPV
Aug. 2017

High Pressure Valves

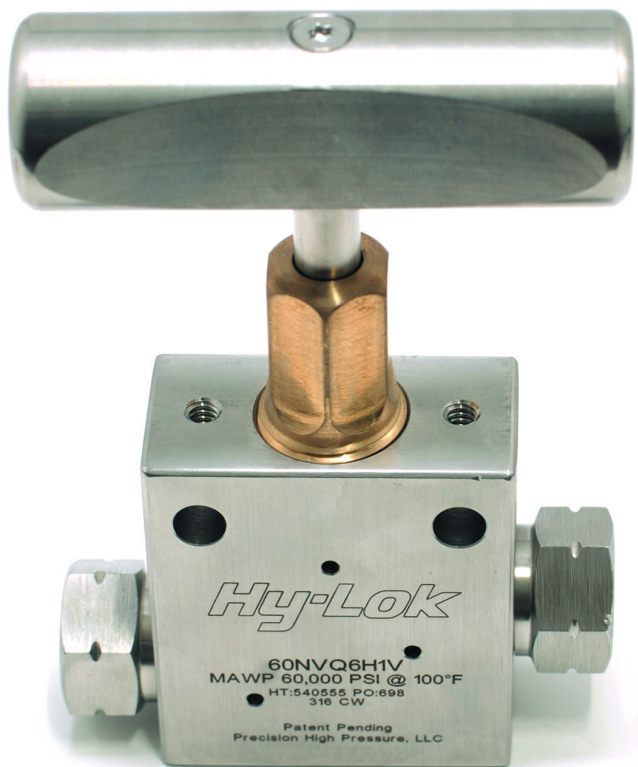
for 10,000 psig to 60,000 psig rating



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NPT Needle Valves 10,000 - 15,000 psig

Specifications

- MAWP up to 15,000 psig (1034 bar)
- Temperature Ratings : -100 °F to 600 °F (-73 °C to 316 °C)
- Quick Turn Needle Valve is optional

Features & Benefits

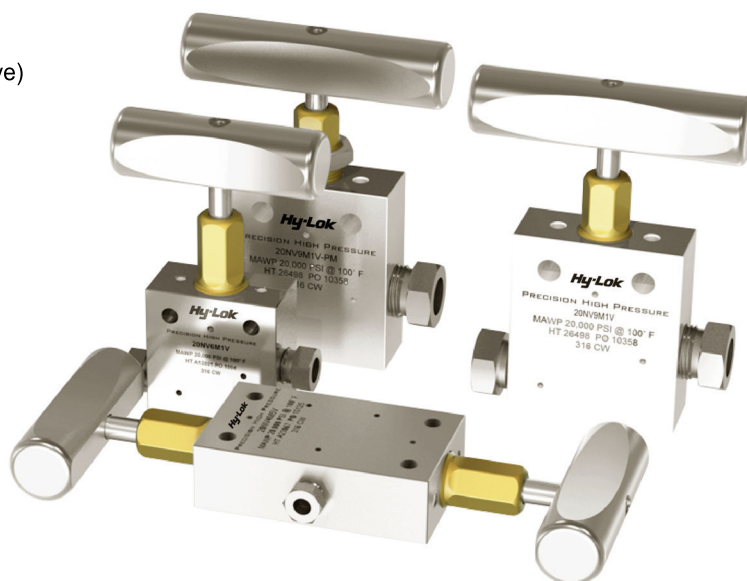
- Standard valve fully opens in as little as 3 1/2 turns / Quick turn needle valve (1 3/4 turns).
- Solid stainless steel handle.
- Stem is lifted off of the seat more than 2X faster than conventional valves, which reduces throttling and therefore increases seat life. (Quick Turn Needle Valve)
- Less than half the number of turns to fully open compared to competitor's valves. Less operator fatigue when opening/closing. (Quick Turn Needle Valve)
- Stainless steel captive fixing screw with stainless spring for easier handle removal. Eliminates dropped or misplaced fixing screw.
- 4 - sided tapered stem for maximum handle contact. No chance of the handle slipping or loosening on stem.
- Two - piece, heavy - duty, non - rotating stem for a robust and reliable assembly.
- Bi - directional flow capability. Simplifies system designs.
- Packing gland/body thread interface consists of a preload locking internal thread form that is resistant to vibration. Eliminates the need for an external locking device.
- Double sided weep holes for easier leakage verification.
- Complete material traceability.

Options

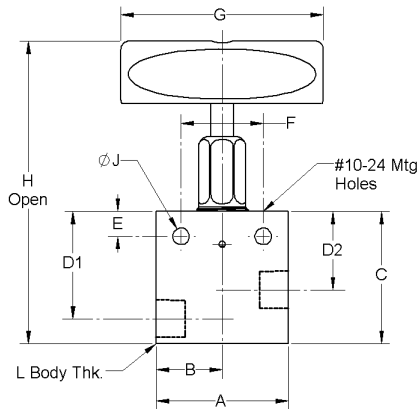
- Air Actuators for Remote Valve Operation - See Page 16 or ordering information
- Can be manufactured to meet NACE MR - 0175
- Grafoil Packing for temperature up to 800 °F (427 °C)
- Extended Stuffing Box for temperature up to 1200 °F (649 °C)
- For Valve to be manufactured to NACE MR - 0175 add - SOG to end of part number. Pressure rating will change due to NACE, contact factory for revised pressure rating.
- Example : 20NV6M1V - SOG (Standard Needle Valve)
: 20NVQ6M1V - SOG (Quick Turn Needle Valve)

Materials

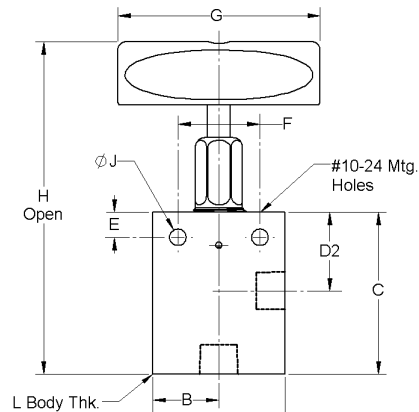
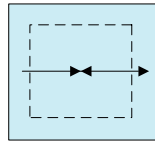
- Body - 316 cold worked stainless steel
- Packing - Glass filled Teflon
- Stem - 17 - 4 PH



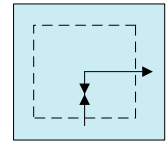
Standard NPT Needle Valves



2-Way Straight



2-Way Angle



2-Way Straight

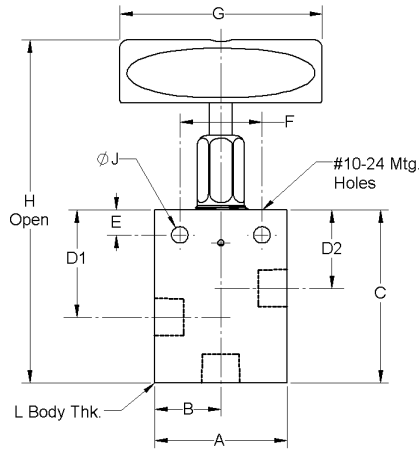
Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)										
					A	B	C	D1	D2	E	F	G	H	J	L
15,000 psig	Female NPT	1/4	15NV4N1	0.25 (6.4)	2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	4.84 (123.0)	0.25 (6.4)	1.00 (25.4)
		3/8	15NV6N1	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	2.88 (73.2)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.46 (139.0)	0.34 (8.7)	1.00 (25.4)
		1/2	15NV8N1	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.00 (76.2)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.58 (142.0)	0.34 (8.7)	1.50 (38.1)

2-Way Angle

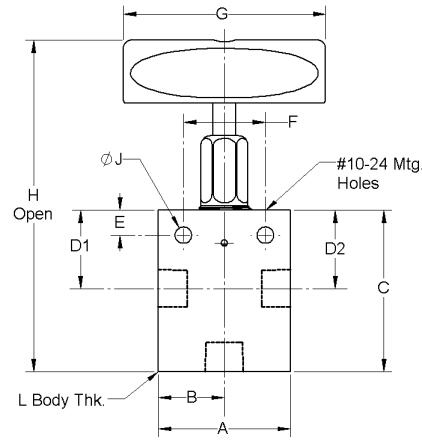
Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)									
					A	B	C	D2	E	F	G	H	J	L
15,000 psig	Female NPT	1/4	15NV4N2	0.25 (6.4)	2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	1.00 (25.4)
		3/8	15NV6N2	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.00 (25.4)
		1/2	15NV8N2	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.50 (38.1)

* If you want to order Quick Turn type, insert "Q" in front of size in ordering number
e.g. 15NVQ*4N1 (2-way straight) / 15NVQ*4N2 (2-way angle)

Standard NPT Needle Valves



3-Way 2 Inlet



3-Way 2 Outlet

3-Way 2 Inlet

Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)										
					A	B	C	D1	D2	E	F	G	H	J	L
15,000 psig	Female NPT	1/4	15NV4N3	0.25 (6.4)	2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.46 (139.0)	0.25 (6.4)	1.00 (25.4)
		3/8	15NV6N3	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.62 (85.9)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	6.20 (157.5)	0.34 (8.7)	1.00 (25.4)
		1/2	15NV8N3	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.62 (85.9)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	6.20 (157.5)	0.34 (8.7)	1.50 (38.1)

3-Way 2 Outlet

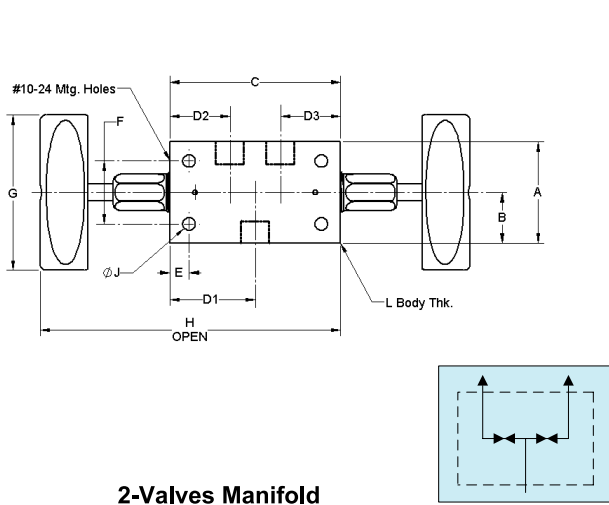
Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)									
					A	B	C	D1	E	F	G	H	J	L
15,000 psig	Female NPT	1/4	15NV4N4	0.25 (6.4)	2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	1.00 (25.4)
		3/8	15NV6N4	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.00 (25.4)
		1/2	15NV8N4	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.50 (38.1)

* If you want to order Quick Turn type, insert "Q" in front of size in ordering number e.g. 15NVQ*4N3 (3-way 2 Inlet) / 15NVQ*4N4 (3-way 2 Outlet)

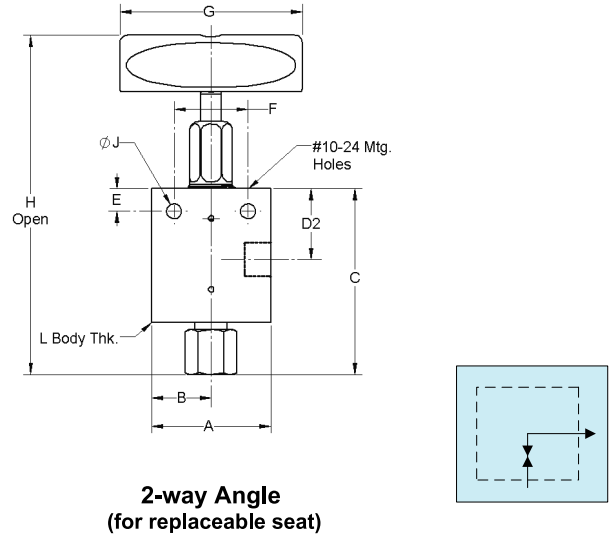
Dimensions, in inches (millimeters), are for reference only and are subject to change.

High Pressure Valves

Standard NPT Needle Valves



2-Valves Manifold



**2-way Angle
(for replaceable seat)**

2-Valves Manifold

Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)											
					A	B	C	D1	D2	D3	E	F	G	H	J	L
15,000 psig	Female NPT	1/4	15NV4N5	0.25 (6.4)	2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	1.69 (42.9)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	9.06 (230.1)	0.25 (6.4)	1.00 (25.4)
		3/8	15NV6N5	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	5.12 (130.0)	2.56 (65.0)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	10.28 (261.1)	0.34 (8.7)	1.00 (25.4)
		1/2	15NV8N5	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	5.12 (130.0)	2.56 (65.0)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	10.28 (261.1)	0.34 (8.7)	1.50 (38.1)

Replaceable Seat

Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)									
					A	B	C	D2	E	F	G	H	J	L
15,000 psig	Female NPT	1/4	15NV4N6	0.25 (6.4)	2.00 (50.8)	1.00 (25.4)	3.30 (83.8)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	6.19 (157.2)	0.25 (6.4)	1.00 (25.4)
		3/8	15NV6N6	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	4.51 (114.6)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	7.09 (180.1)	0.34 (8.7)	1.00 (25.4)
		1/2	15NV8N6	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	4.62 (117.3)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	7.20 (182.9)	0.34 (8.7)	1.50 (38.1)

* If you want to order Quick Turn type, insert "Q" in front of size in ordering number
e.g. 15NVQ*4N5 (2-valves manifold) / 15NVQ*4N6 (Replaceable seat)

NPT Check Valves 10,000 - 15,000 psig

Specifications

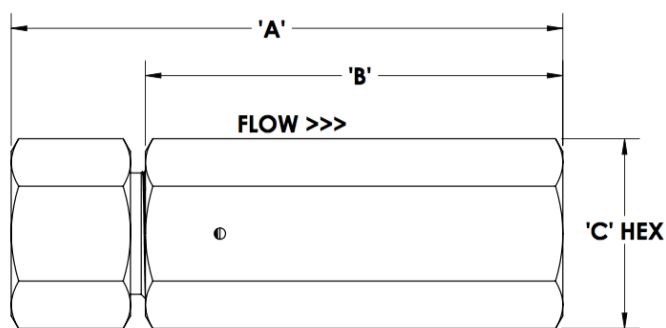
- MAWP up to 15,000 psig (1034 bar)
- Temperature Ratings
 - Metal Seat : -420 °F to 1200 °F (-251 °C to 648 °C)
 - Soft Seat : -65 °F to 250 °F (-54 °C to 121 °C)
- Nominal Cracking Pressure : 15 psig (1 bar)
- PEEK is standard material of soft seat
- NPT Check valves come standard with female end connections

Features

- Prevents reverse flow which may cause damage to a pressure system
- Metal cone ring option offers metal - to - metal seat for high temperature applications
- Standard PEEK seat for optimum performance
- Complete material traceability
- Can be manufactured to meet NACE MR - 0175

Materials

- 316 cold worked stainless steel is standard



Pressure Rating	Connection Type	End Connection Size in.	Ordering Number (Metal Seat)	Ordering Number (Soft Seat)	Orifice in. (mm)	Dimensions in. (mm)		
						A	B	C
15,000 psig	Female NPT	1/4	15CV4NFM	15CV4NFS	0.19 (4.8)	3.20 (81.3)	2.50 (63.5)	1.00 (25.4)
		3/8	15CV6NFM	15CV6NFS	0.22 (5.6)	3.56 (90.4)	2.66 (66.0)	1.13 (28.7)
		1/2	15CV8NFM	15CV8NFS	0.36 (9.1)	4.63 (117.6)	3.50 (88.9)	1.38 (35.1)
10,000 psig		3/4	10CV12NFM	10CV12NFS	0.52 (13.1)	5.63 (143.0)	4.38 (111.3)	1.75 (44.5)
		1	10CV16NFM	10CV16NFS	0.69 (17.5)	7.00 (177.8)	5.25 (133.4)	2.13 (54.1)

Dimensions, in inches (millimeters), are for reference only and are subject to change.

High Pressure Valves

Medium and High Pressure Needle Valves 20,000 - 60,000 psig

Specifications

- MAWP up to 60,000 psig (4136 bar)
- Temperature Ratings : -100 °F to 600 °F (-73 °C to 316 °C)
- Quick Turn Needle Valve is optional

Features & Benefits

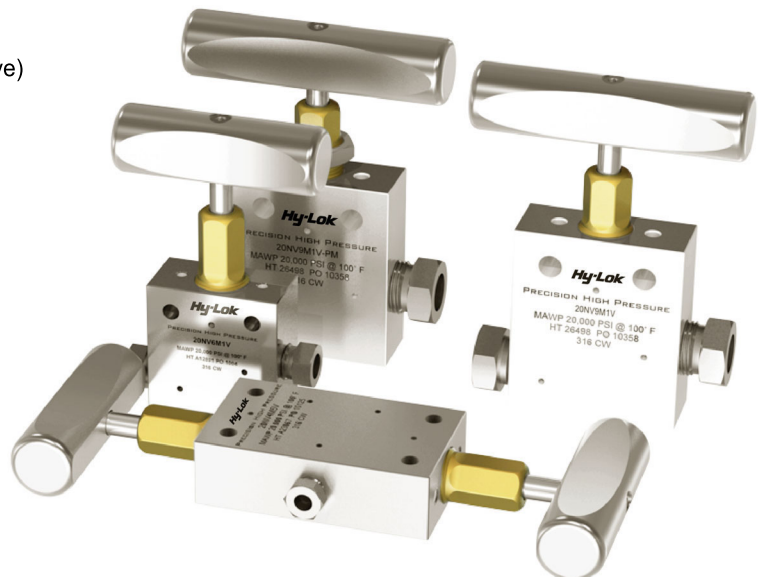
- Standard valve fully opens in as little as 3 1/2 turns / Quick turn needle valve (1 3/4 turns).
- Solid stainless steel handle.
- Stem is lifted off of the seat more than 2X faster than conventional valves, which reduces throttling and therefore increases seat life. (Quick Turn Needle Valve)
- Less than half the number of turns to fully open compared to competitor's valves. Less operator fatigue when opening/closing. (Quick Turn Needle Valve)
- Stainless steel captive fixing screw with stainless spring for easier handle removal. Eliminates dropped or misplaced fixing screw.
- 4 - sided tapered stem for maximum handle contact. No chance of the handle slipping or loosening on stem.
- Two - piece, heavy - duty, non - rotating stem for a robust and reliable assembly.
- Bi - directional flow capability. Simplifies system designs.
- Packing gland/body thread interface consists of a preload locking internal thread form that is resistant to vibration. Eliminates the need for an external locking device.
- Double sided weep holes for easier leakage verification.
- Complete material traceability.

Options

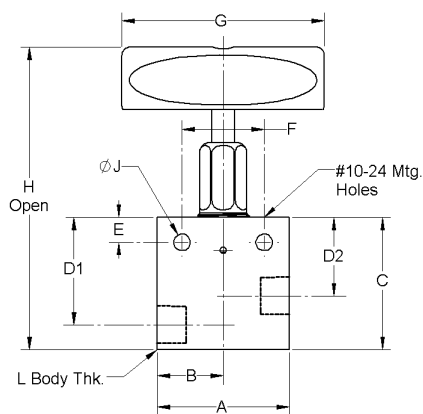
- Air Actuators for Remote Valve Operation - See Page 16 or ordering information
- Can be manufactured to meet NACE MR - 0175
- Grafoil Packing for temperature up to 800 °F (427 °C)
- Extended Stuffing Box for temperature up to 1200 °F (649 °C)
- For Valve to be manufactured to NACE MR - 0175 add - SOG to end of part number. Pressure rating will change due to NACE, contact factory for revised pressure rating.
- Example : 20NV6M1V - SOG (Standard Needle Valve)
: 20NVQ6M1V-SOG (Quick Turn Needle Valve)

Materials

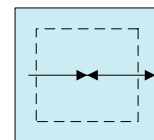
- Body - 316 cold worked stainless steel
- Packing - Glass filled Teflon
- Stem - 17 - 4 PH



Standard Needle Valves



2-Way Straight



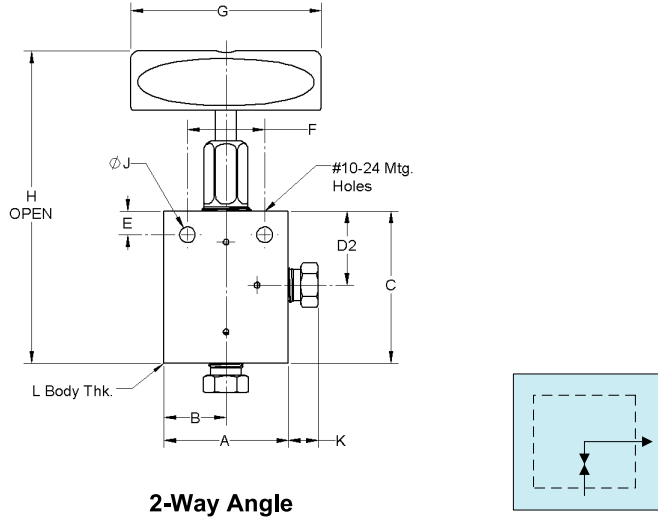
Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)											
					A	B	C	D1	D2	E	F	G	H	J	K	L
20,000 psig	Medium Pressure Cone & Thread	1/4	20NV4M1	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	4.84 (123.0)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
		3/8	20NV6M1	0.20 (5.1)	2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	4.84 (123.0)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
		9/16	20NV9M1	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	2.88 (73.2)	2.38 (60.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.46 (139.0)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)
30,000 psig	High Pressure Cone & Thread	1/4	30NV4H1	0.09 (2.4)	2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	30NV6H1	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	30NV9H1	0.13 (3.2)	2.62 (66.5)	1.31 (33.3)	2.44 (62.0)	1.56 (39.6)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.18 (131.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
60,000 psig	High Pressure Cone & Thread	1/4	60NV4H1	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.89 (124.2)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	60NV6H1	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	2.25 (57.2)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.02 (127.5)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	60NV9H1	0.01 (0.03)	2.62 (66.5)	1.31 (33.3)	2.50 (63.5)	1.75 (44.5)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.27 (133.9)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

* If you want to order Quick Turn type, insert "Q" in front of size in ordering number e.g. 20NVQ*4M1 (Medium Pressure) / 30NVQ*4H1 (High Pressure)

Dimensions, in inches (millimeters), are for reference only and are subject to change.

High Pressure Valves

Standard Needle Valves

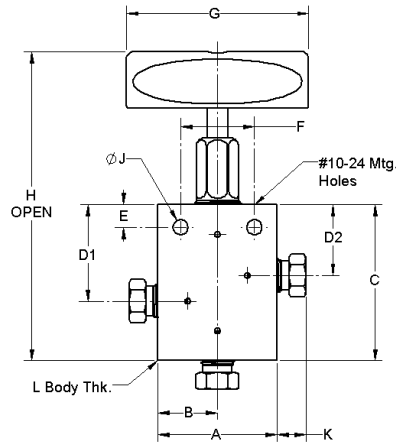


Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)										
					A	B	C	D2	E	F	G	H	J	K	L
20,000 psig	Medium Pressure Cone & Thread	1/4	20NV4M2	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
		3/8	20NV6M2	0.20 (5.1)	2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
		9/16	20NV9M2	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (151.4)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)
30,000 psig	High Pressure Cone & Thread	1/4	30NV4H2	0.09 (2.4)	2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	30NV6H2	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.86 (123.4)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	30NV9H2	0.13 (3.2)	2.62 (66.5)	1.31 (33.3)	2.44 (62.0)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.18 (131.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
60,000 psig	High Pressure Cone & Thread	1/4	60NV4H2	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	2.38 (60.5)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.15 (130.8)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	60NV6H2	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.39 (136.9)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	60NV9H2	0.01 (0.03)	2.62 (66.5)	1.31 (33.3)	2.81 (71.4)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.58 (141.7)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

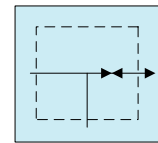
* If you want to order Quick Turn type, insert "Q" in front of size in ordering number
 e.g. 20NVQ*4M2 (Medium Pressure) / 30NVQ*4H2 (High Pressure)

Dimensions, in inches (millimeters), are for reference only and are subject to change.

Standard Needle Valves



3-Way 2 Inlet

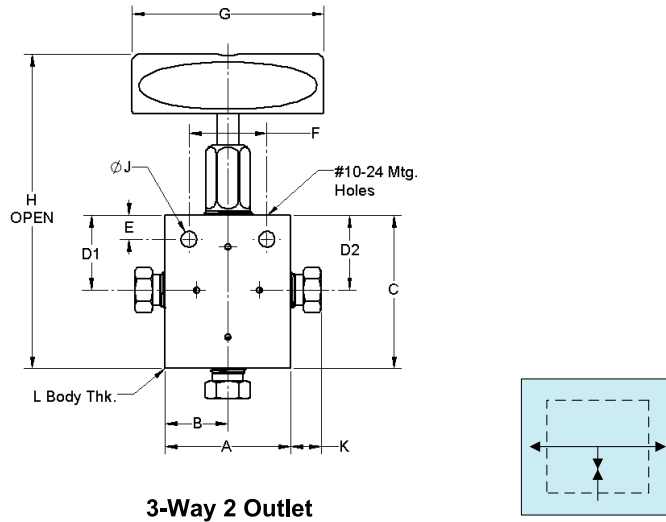


Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)											
					A	B	C	D1	D2	E	F	G	H	J	K	L
20,000 psig	Medium Pressure Cone & Thread	1/4	20NV4M3	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.46 (138.7)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
		3/8	20NV6M3	0.20 (5.1)	2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.46 (138.7)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
		9/16	20NV9M3	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.63 (92.2)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	6.21 (157.7)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)
30,000 psig	High Pressure Cone & Thread	1/4	30NV4H3	0.09 (2.4)	2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.86 (123.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	30NV6H3	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	2.50 (63.5)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.24 (133.1)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	30NV9H3	0.13 (3.2)	2.62 (66.5)	1.31 (33.3)	2.88 (73.2)	1.56 (39.6)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.62 (142.7)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
60,000 psig	High Pressure Cone & Thread	1/4	60NV4H3	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	2.38 (60.5)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.15 (130.8)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	60NV6H3	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	2.75 (69.9)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.52 (140.2)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	60NV9H3	0.01 (0.03)	2.62 (66.5)	1.31 (33.3)	3.03 (77.0)	1.75 (44.5)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.82 (147.8)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

* If you want to order Quick Turn type, insert "Q" in front of size in ordering number e.g. 20NVQ*4M3 (Medium Pressure) / 30NVQ*4H3 (High Pressure)

High Pressure Valves

Standard Needle Valves

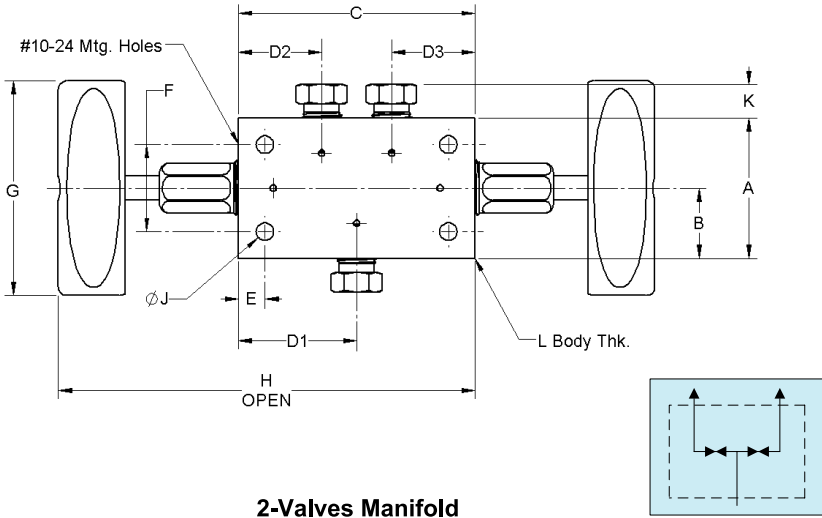


Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)											
					A	B	C	D1	D2	E	F	G	H	J	K	L
20,000 psig	Medium Pressure Cone & Thread	1/4	20NV4M4	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
		3/8	20NV6M4	0.20 (5.1)	2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
		9/16	20NV9M4	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (151.4)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)
30,000 psig	High Pressure Cone & Thread	1/4	30NV4H4	0.09 (2.4)	2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.12 (28.5)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	30NV6H4	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.12 (28.5)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.86 (123.4)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	30NV9H4	0.13 (3.2)	2.62 (66.5)	1.31 (33.3)	2.44 (62.0)	1.12 (28.5)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.18 (131.6)	0.28 (7.1)	1.00 (25.4)	1.00 (25.4)
60,000 psig	High Pressure Cone & Thread	1/4	60NV4H4	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	2.38 (60.5)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.15 (130.8)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	60NV6H4	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.39 (136.9)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	60NV9H4	0.01 (0.03)	2.62 (66.5)	1.31 (33.3)	2.81 (71.4)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.50 (38.1)	3.00 (76.2)	5.58 (141.7)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

* If you want to order Quick Turn type, insert "Q" in front of size in ordering number e.g. 20NVQ*4M4 (Medium Pressure) / 30NVQ*4H4 (High Pressure)

Dimensions, in inches (millimeters), are for reference only and are subject to change.

Standard Needle Valves



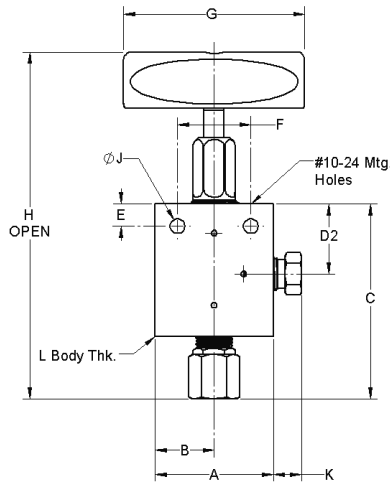
2-Valves Manifold

Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)												
					A	B	C	D1	D2	D3	E	F	G	H	J	K	L
20,000 psig	Medium Pressure Cone & Thread	1/4	20NV4M5	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	1.69 (42.9)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	9.06 (230.1)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
		3/8	20NV6M5	0.20 (5.1)	2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	2.56 (65.0)	1.75 (44.5)	1.75 (44.5)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	9.06 (230.1)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
		9/16	20NV9M5	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	5.12 (130.0)	2.56 (65.0)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	10.28 (261.1)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)
30,000 psig	High Pressure Cone & Thread	1/4	30NV4H5	0.09 (2.4)	2.00 (50.8)	1.00 (25.4)	3.06 (77.7)	1.53 (38.9)	1.12 (28.4)	1.12 (28.4)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	8.54 (216.9)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	30NV6H5	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	3.25 (82.6)	1.62 (41.2)	1.12 (28.4)	1.12 (28.4)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	8.73 (221.7)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	30NV9H5	0.13 (3.2)	2.62 (66.5)	1.31 (33.3)	3.75 (95.3)	1.88 (47.8)	1.12 (28.4)	1.12 (28.4)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	9.23 (234.4)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
60,000 psig	High Pressure Cone & Thread	1/4	60NV4H5	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	3.44 (87.4)	1.72 (43.7)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	8.98 (228.1)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	60NV6H5	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	3.75 (95.3)	1.88 (47.8)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	9.29 (236.0)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	60NV9H5	0.01 (0.03)	2.62 (66.5)	1.31 (33.3)	4.12 (104.7)	2.06 (52.3)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	9.66 (245.4)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

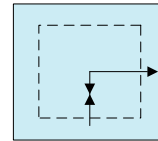
* If you want to order Quick Turn type, insert "Q" in front of size in ordering number e.g. 20NVQ*4M5 (Medium Pressure) / 30NVQ*4H5 (High Pressure)

High Pressure Valves

Standard Needle Valves



2-way Angle
(for replaceable seat)



Pressure Rating	Connection Type	End Connection Size in.	Ordering Number	Orifice in. (mm)	Dimensions in. (mm)										
					A	B	C	D2	E	F	G	H	J	K	L
20,000 psig	Medium Pressure Cone & Thread	1/4	20NV4M6	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	3.30 (83.8)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	6.04 (153.4)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
		3/8	20NV6M6	0.20 (5.1)	2.00 (50.8)	1.00 (25.4)	3.30 (83.8)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	6.04 (153.4)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
		9/16	20NV9M6	0.31 (7.9)	2.50 (63.5)	1.25 (31.8)	4.63 (117.6)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	7.21 (183.1)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)
30,000 psig	High Pressure Cone & Thread	1/4	30NV4H6	0.09 (2.4)	2.00 (50.8)	1.00 (25.4)	3.12 (79.2)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.83 (148.1)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	30NV6H6	0.13 (3.2)	2.00 (50.8)	1.00 (25.4)	3.39 (86.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.09 (154.7)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	30NV9H6	0.13 (3.2)	2.62 (66.5)	1.31 (33.3)	3.82 (97.0)	1.19 (30.2)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.52 (165.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
60,000 psig	High Pressure Cone & Thread	1/4	60NV4H6	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	3.45 (87.6)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.19 (157.2)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
		3/8	60NV6H6	0.06 (1.6)	2.00 (50.8)	1.00 (25.4)	3.75 (95.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.49 (164.8)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
		9/16	60NV9H6	0.01 (0.03)	2.62 (66.5)	1.31 (33.3)	4.00 (101.6)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.74 (171.2)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

* If you want to order Quick Turn type, insert "Q" in front of size in ordering number e.g. 20NVQ*4M6 (Medium Pressure) / 30NVQ*4H6 (High Pressure)

Medium and High Pressure Check Valves 20,000 - 60,000 psig

Specifications

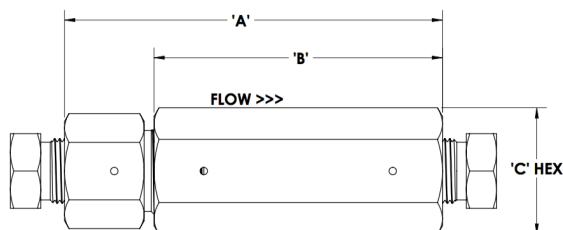
- MAWP up to 60,000 psig (4136 bar)
- Temperature Ratings
 - Metal Seat : -420 °F to 1200 °F (-251 °C to 648 °C)
 - Soft Seat : -65 °F to 250 °F (-54 °C to 121 °C)
- Nominal Cracking Pressure : 15 psig (1 bar)
- PEEK is standard material of soft seat
- NPT Check valves come standard with female end connections

Features

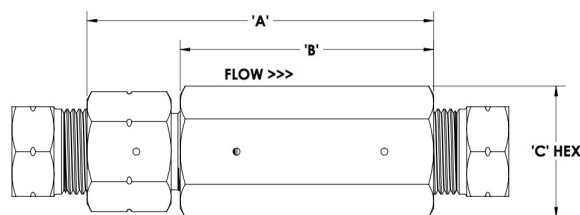
- Prevents reverse flow which may cause damage to a pressure system
- Metal cone ring option offers metal - to - metal seat for high temperature applications
- Standard PEEK seat for optimum performance
- Complete material traceability
- Can be manufactured to meet NACE MR - 0175

Materials

- 316 cold worked stainless steel is standard



Medium Pressure 20,000 psig



High Pressure 60,000 psig

Pressure Rating	Connection Type	End Connection Size in.	Ordering Number (Metal Seat)	Ordering Number (Soft Seat)	Orifice in. (mm)	Dimensions in. (mm)		
						A	B	C
20,000 psig	Medium Pressure Cone & Thread	1/4	20CV4MFM	20CV4MFS	0.13 (3.2)	3.07 (78.0)	2.50 (63.5)	1.00 (25.4)
		3/8	20CV6MFM	20CV6MFS	0.22 (5.6)	3.48 (88.4)	2.66 (66.0)	1.13 (28.7)
		9/16	20CV9MFM	20CV9MFS	0.36 (9.1)	4.76 (120.9)	3.50 (88.9)	1.38 (35.1)
		3/4	20CV12MFM	20CV12MFS	0.52 (13.1)	5.63 (143.0)	4.38 (111.3)	1.75 (44.5)
		1	20CV16MFM	20CV16MFS	0.69 (17.5)	7.00 (177.8)	5.25 (133.4)	2.13 (54.1)
60,000 psig	High Pressure Cone & Thread	1/4	60CV4HFM	60CV4HFS	0.09 (2.4)	3.26 (82.8)	2.50 (63.5)	1.25 (31.8)
		3/8	60CV6HFM	60CV6HFS	0.13 (3.2)	3.75 (95.3)	2.75 (69.9)	1.25 (31.8)
		9/16	60CV9HFM	60CV9HFS	0.19 (4.8)	4.63 (117.6)	3.38 (85.9)	1.50 (38.1)

Note : Larger sizes available by request

Dimensions, in inches (millimeters), are for reference only and are subject to change.

High Pressure Valves

Air Actuators for Needle Valves

Air Actuators for Remote Valve Operation

Types

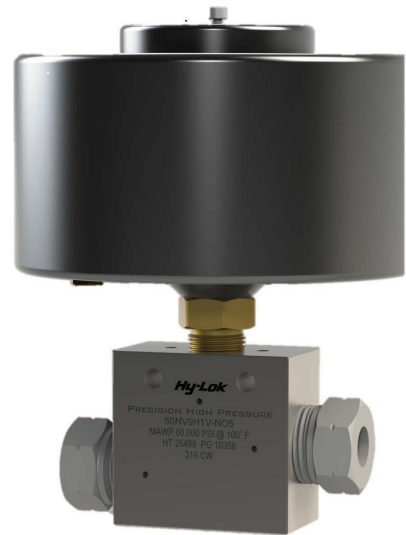
- Normally Closed - Air is required to open the valve
- Normally Open - Air is required to close the valve
- Double Action - Open or close the valve using air pressure

Ordering Information

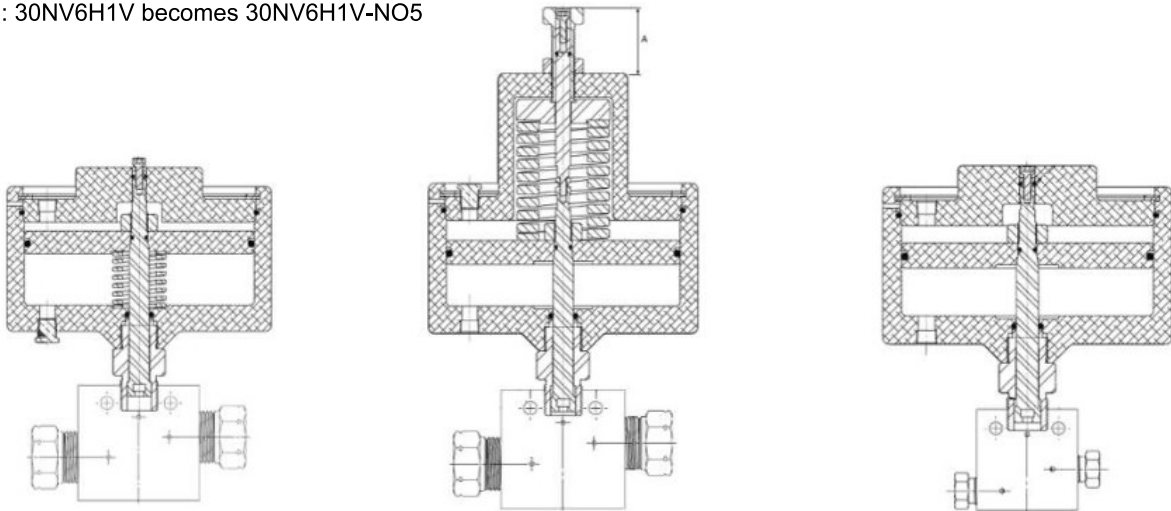
Normally Closed (Air-to-Open) : -NC5

Normally Open (Air-to-Close) : -NO5

Double Acting : -DA5



Example : 30NV6H1V becomes 30NV6H1V-NO5



Normally Open (Air-to-Close)

Normally Closed (Air-to-Open)

Double Acting

Actuator Settings

VALVE TYPE	Air Actuator Type					
			NOS (Air-to-Close)			
	AIR PRESSURE TO FULL TRAVEL (psig)	MAWP psig @ 100 °F	AIR PRESSURE TO FULL TRAVEL (psig)	MAWP psig @ 100 °F	AIR PRESSURE TO FULL TRAVEL (psig)	MAWP psig @ 100 °F
15NV4N	80	15,000	65	15,000	50	15,000
15NV6N	100	15,000	100	15,000	95	15,000
15NV8N	100	14,000	100	15,000	95	15,000
20NV4M	80	20,000	65	20,000	50	20,000
20NV6M	80	20,000	65	20,000	50	20,000
20NV9M	100	14,000	100	17,000	95	20,000
30NV4H	85	30,000	70	30,000	55	30,000
30NV6H	85	30,000	70	30,000	55	30,000
30NV9H	85	30,000	70	30,000	55	30,000
60NV4H	100	60,000	95	60,000	75	60,000
60NV6H	100	60,000	95	60,000	75	60,000
60NV9H	100	60,000	95	60,000	75	60,000

Ball Valves

Specifications

- MAWP up to 20,000 psig (1380 bar)
- Temperature Ratings : - 20 °F to 400 °F (-28 °C to 204 °C)
Port Sizes : 3/16", 1/4", 3/8" or 1/2"
Flow Patterns : 2 - way, 3 - way Switching, 3 - way Diverting

Connection Types

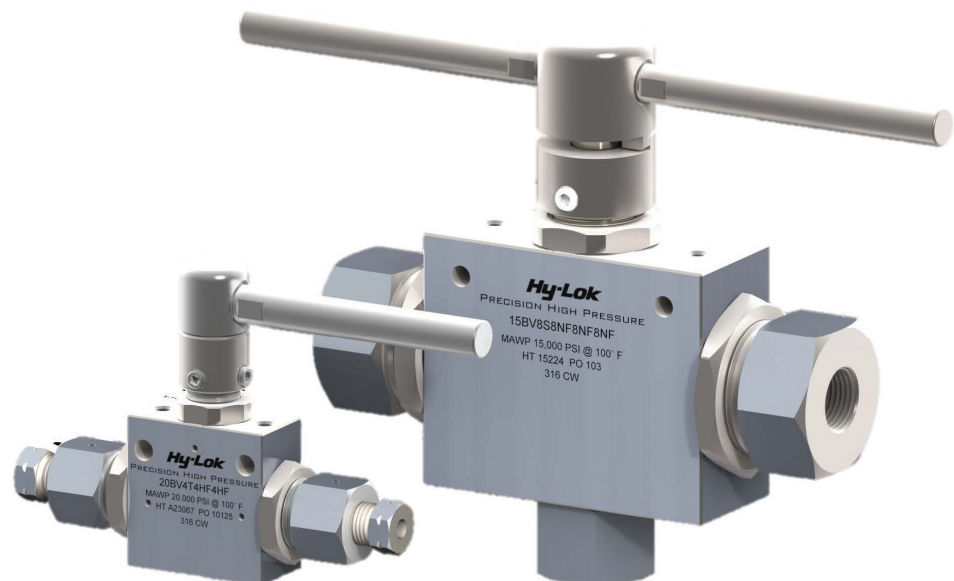
- Bi - directional trunnion style for optimal performance
- Three standard mounting options

Materials

- Body / Side Adapter / Stem - 316 cold worked stainless steel
- Packing - Glass filled Teflon
- Seats - PEEK
- Seals - FKM
- Bearings - Nitronic 60

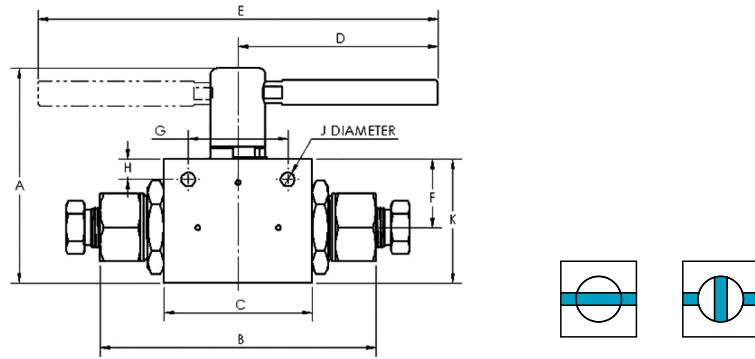
Options

- Available with electric actuators



High Pressure Valves

Ball Valves



2-Way Trunnion

1/4" Orifice

Orifice in. (mm)	Pressure Rating	End Connection Type	End Connection Size in.	Ordering Number	
0.25 (6.4)	15,000 psig	Female NPT	1/4	15BV4T4NF	
			3/8	15BV4T6NF	
			1/2	15BV4T8NF	
	20,000 psig	Medium Pressure Cone & Thread	1/4	20BV4T4MF	
			3/8	20BV4T6MF	
			9/16	20BV4T9MF	
			High Pressure Cone and Thread	1/4	20BV4T4HF
				3/8	20BV4T6HF
9/16	20BV4T9HF				

Dimensions in. (mm)

A	B	C	D	E	F	G	H	J	K	Block Thickness
3.83 (97.3)	4.35 (110.5)	2.00 (50.8)	3.98 (101.1)	---	1.13 (28.7)	1.50 (38.1)	0.44 (11.2)	0.28 (7.1)	2.00 (50.8)	1.00 (25.4)

3/8" Orifice

Orifice in. (mm)	Pressure Rating	End Connection Type	End Connection Size in.	Ordering Number
0.38 (9.5)	15,000 PSI	Female NPT	1/4	15BV6T4NF
			3/8	15BV6T6NF
			1/2	15BV6T8NF
	20,000 PSI	Medium Pressure Cone & Thread	3/8	20BV6T6MF
			9/16	20BV6T9MF
			3/4	20BV6T12MF

Dimensions in. (mm)

A	B	C	D	E	F	G	H	J	K	Block Thickness
4.34 (110.2)	5.54 (140.7)	3.00 (76.2)	4.02 (102.1)	---	1.38 (35.1)	2.00 (50.8)	0.41 (10.4)	0.28 (7.1)	2.50 (63.5)	1.38 (35.1)

1/2" Orifice

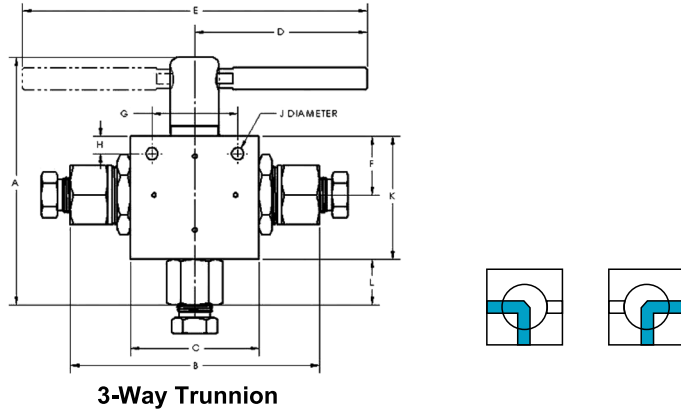
Orifice in. (mm)	Pressure Rating	End Connection Type	End Connection Size in.	Ordering Number
0.50 (12.7)	15,000 PSI	Female NPT	1/2	15BV8T8NF
	10,000 PSI		3/4	10BV8T12NF
			1	10BV8T16NF
	15,000 PSI	Medium Pressure Cone & Thread	3/4	15BV8T12MF
			1	15BV8T16MF

Dimensions in. (mm)

A	B	C	D	E	F	G	H	J	K	Block Thickness
5.57 (141.5)	7.69 (195.3)	4.13 (104.9)	5.13 (130.3)	10.26 (260.6)	1.76 (44.7)	3.00 (76.2)	0.50 (12.7)	0.28 (7.1)	3.09 (78.5)	1.75 (44.5)

Dimensions, in inches (millimeters), are for reference only and are subject to change.

Ball Valves



3-Way Trunnion

3/16" Orifice

Orifice in. (mm)	Pressure Rating	End Connection Type	End Connection Size in.	Ordering Number	
				90° Diverting	180° Switching
0.19 (4.8)	15,000 PSI	Female NPT	1/4	15BV3D4NF	15BV3S4NF
			3/8	15BV3D6NF	15BV3S6NF
			1/2	15BV3D8NF	15BV3S8NF
	20,000 PSI	Medium Pressure Cone & Thread	1/4	20BV3D4MF	20BV3S4MF
			3/8	20BV3D6MF	20BV3S6MF
			9/16	20BV3D9MF	20BV3S9MF
		High Pressure Cone and Thread	1/4	20BV3D4HF	20BV3S4HF
			3/8	20BV3D6HF	20BV3S6HF
9/16	20BV3D9HF	20BV3S9HF			

Dimensions in. (mm)											
A	B	C	D	E	F	G	H	J	K	L	Block Thickness
5.64 (143.3)	4.72 (119.9)	2.50 (63.5)	3.37 (85.6)	—	1.13 (28.7)	1.50 (38.1)	0.43 (10.9)	0.28 (7.1)	2.25 (57.2)	0.96 (24.4)	1.00 (25.4)

3/8" Orifice

Orifice in. (mm)	Pressure Rating	End Connection Type	End Connection Size in.	Ordering Number	
				90° Diverting	180° Switching
0.38 (9.5)	15,000 PSI	Female NPT	1/4	15BV6D4NF	15BV6S4NF
			3/8	15BV6D6NF	15BV6S6NF
			1/2	15BV6D8NF	15BV6S8NF
		Medium Pressure Cone & Thread	3/8	15BV6D6MF	15BV6S6MF
			9/16	15BV6D9MF	15BV6S9MF
			3/4	15BV6D12MF	15BV6S12MF

Dimensions in. (mm)											
A	B	C	D	E	F	G	H	J	K	L	Block Thickness
5.78 (146.8)	5.80 (147.3)	3.00 (76.2)	4.02 (102.1)	—	1.38 (35.1)	2.00 (50.8)	0.41 (10.4)	0.28 (7.1)	2.88 (73.2)	1.06 (26.9)	1.38 (35.1)

1/2" Orifice

Orifice in. (mm)	Pressure Rating	End Connection Type	End Connection Size in.	Ordering Number	
				90° Diverting	180° Switching
0.50 (12.7)	10,000 PSI	Female NPT	1/2	10BV8D8NF	10BV8S8NF
			3/4	10BV8D12NF	10BV8S12NF
			1	10BV8D16NF	10BV8S16NF
		Medium Pressure Cone & Thread	3/4	10BV8D12MF	10BV8S12MF
			1	10BV8D16MF	10BV8S16MF

Dimensions in. (mm)											
A	B	C	D	E	F	G	H	J	K	L	Block Thickness
7.83 (198.9)	7.77 (197.4)	4.13 (104.9)	5.12 (130.0)	10.25 (260.4)	1.66 (42.2)	3.00 (76.2)	0.50 (12.7)	0.28 (7.1)	3.34 (84.8)	1.70 (43.2)	1.75 (44.5)

Dimensions, in inches (millimeters), are for reference only and are subject to change.

High Pressure Valves

Double Block and Bleed Valves

Specifications

- MAWP up to 20,000 psig (1380 bar)
- Temperature Ratings : -100 °F to 450 °F (-73 °C to 232 °C)

Connection Types

- NPT
- MP and HP Cone & Threaded

Features & Benefits

- Standard Needle Valve internals

Configurations

- Ball x Needle x Ball
- Needle x Needle x Needle

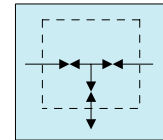
Options

- Grafoil Packing for temperature up to 1200 °F (649 °C)

Materials

- Body - 316 cold worked stainless steel
- Packing - Glass filled Teflon
- Seats - PEEK
- Stem - 15 - 5 PH

Double Block and Bleed Valves are custom designed to meet the unique needs of each customer. Contact us to discuss your requirements.



Custom Manifolds

Hy-Lok manufactures custom designed high quality manifolds to meet the unique needs of each individual customer.

- Custom Manifolds reduce installation time and minimize space requirements
- Can withstand pressures up to 60,000 psig
- Hy-Lok custom manifolds are available in a wide range of connection sizes and types including NPT and Cone & Threaded
- Lengths to 96" are available
- Available in a wide variety of materials

Let us design it for you! All customers will receive a design drawing for final approval before manufacturing commences.

Information needed for quotation

1. Material type
2. Required pressure rating
3. If possible, a sketch including:
 - a. Manifold layout with desired dimensions
 - b. Placement of ports
 - c. Mounting hole locations if required



SAFETY in VALVE SELECTION

Proper installation, materials compatibility, operation and maintenance of these valves are the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety

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