

# High Pressure Needle Valve

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



- ❖ Maximum working pressure up to 30,000 psig (2068 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 1/4", 3/8", 9/16"
- ❖ 316 stainless steel body material

## Features

- ❖ Tubing sizes available for 1/4", 3/8", 9/16"
- ❖ 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 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

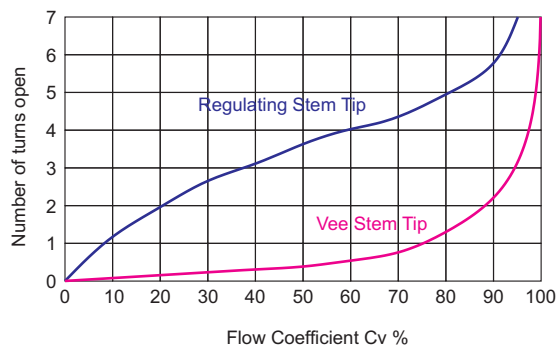
## Technical Data

Tube OD in.	Connection Type	Orifice in. (mm)	Cv	Working Pressure psig (bar)
1/4	HPF4	0.094 (2.39)	0.12	30,000 (2068)
3/8	HPF6	0.125 (3.18)	0.23	30,000 (2068)
9/16	HPF9	0.125 (3.18)	0.33	30,000 (2068)

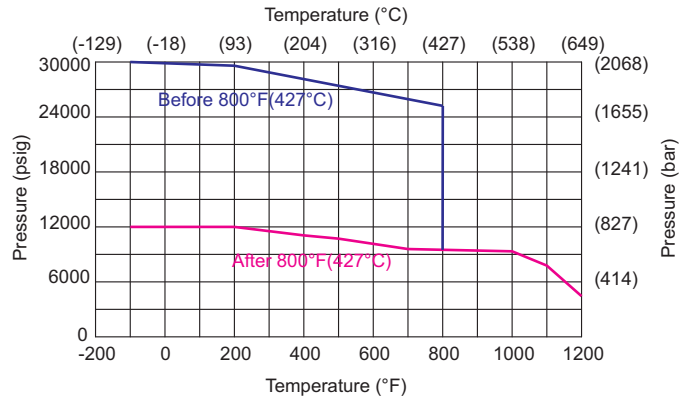
### Notes:

- ❖ 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 : 0°F -100°F (-73°C) to 1200°F (649°C).

### Flow Data at 100°F (38°C)

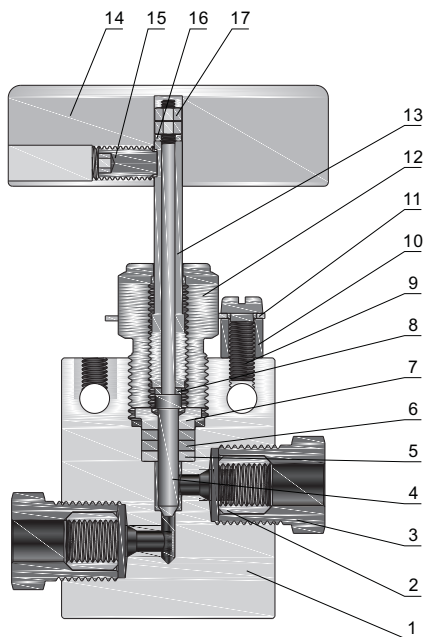


### Pressure & Temperature



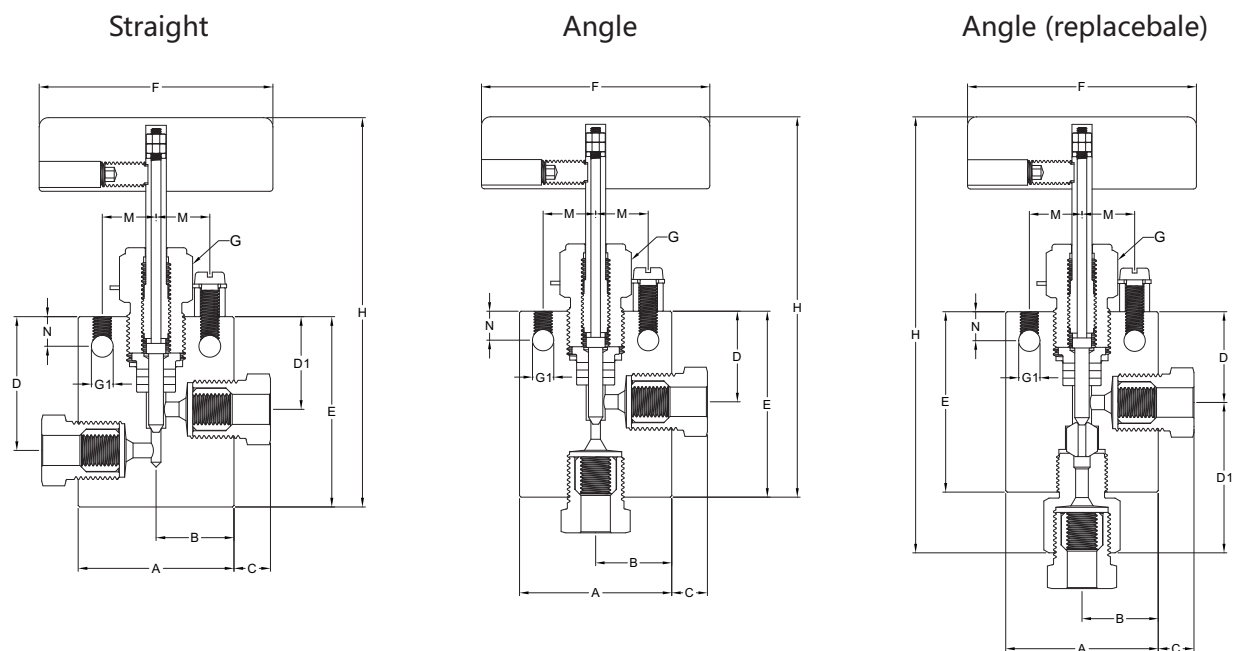
When exceeding 800°F (427 °C) use the pink curve as its cold-worked rating for future operating of the components.

### Standard Materials of Construction



Item	Component	Material Grade/ASTM Specification
1	Body	316 S.S./A479
2	Collar	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)

Basic Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
30NV-HPF4-	HPF4	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)	
30NV-HPF6-	HPF6	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)	
30NV-HPF9-	HPF9	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)

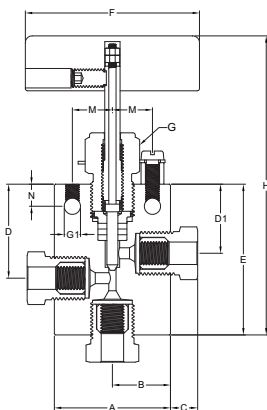
Basic Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
30NV-HPF4-A-	HPF4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.12 (28.5)	—	2.00 (50.8)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	4.62 (117.4)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)	
30NV-HPF6-A-	HPF6	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)	
30NV-HPF9-A-	HPF9	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)

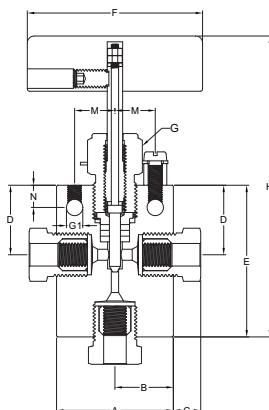
Basic Ordering Number	Connection Type	Orifice in. (mm)	in. (mm)													Thickness
			A	B	C	D	D1	E	F	G	G1	H	M	N		
30NV-HPF4-AR-	HPF4	0.094 (2.39)	2.00 (50.8)	1.00 (25.4)	0.50 (12.7)	1.12 (28.5)	2.06 (52.3)	2.38 (60.5)	3.00 (76.2)	1.00 (25.4)	0.22 (5.6)	5.80 (147.3)	0.69 (17.5)	0.38 (9.7)	1.00 (25.4)	
30NV-HPF6-AR-	HPF6	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)	
30NV-HPF9-AR-	HPF9	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

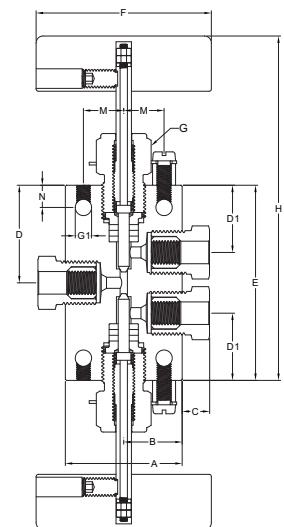
3-way/2 on pressure



3-way/1 on pressure



3-way/2 stem manifold



### Dimensions (3-way/2 on pressure)

Basic Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
30NV-HPF4-3A-	HPF4	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)
30NV-HPF6-3A-	HPF6	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)
30NV-HPF9-3A-	HPF9	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)

Basic Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
30NV-HPF4-3B-	HPF4	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)
30NV-HPF6-3B-	HPF6	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)
30NV-HPF9-3B-	HPF9	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)

Basic Ordering Number	Connection Type	Orifice in. (mm)	A	B	C	D	D1	E	F	G	G1	H	M	N	Thickness
			in. (mm)												
30NV-HPF4-3C-	HPF4	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)
30NV-HPF6-3C-	HPF6	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)
30NV-HPF9-3C-	HPF9	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.
- The dimension of stem in closed position.

## How to Order

Series	Connector Sizes	Stem Tips	Packing	Flow Patterns	Body Material
<b>30NV</b>	<b>HPF4</b> 1/4" <b>HPF6</b> 3/8" <b>HPF9</b> 9/16"	Vee  <b>R</b> Regulating	PTFE  <b>R</b> RPTFE Glass  <b>G</b> Graphite	Straight <b>A</b> Angle <b>AR</b> Angle, replaceable seat <b>3A</b> 3-way, 2 on pressure <b>3B</b> 3-way, 1 on pressure <b>3C</b> 3-way, 2 stem manifold	<b>316</b> 316 S.S. <b>A828</b> Alloy 825