

FORGED NEEDLE VALVE
1/8" - 3/8" NPT
1/8" and 1/4" Dual Ferrule Tube
Vacuum - 5000 Psig (345 Bar)

FNV SERIES

Description

Series FNV Needle Valves feature a forged body, integral bonnet design with PTFE and metallic wafer stem packing. This provides leak-tite service from vacuum to the maximum operating pressure. Series FNV are available in Straight and Angle configurations, with NPT and Dual Ferrule Tube connections. The industry standard panel mounting allows the FNV to be a cost effective solution to many applications. Standard metal to metal stem and optional Soft Tip stem provide accurate metering over a wide range of pressures. The Series FNV can be ordered cleaned for Oxygen Service.

Features

- Metallic and PTFE Wafer Stem Packing provides low operating torque
- Panel Mounting Standard
- Metal to Metal Standard, Optional Soft Stem Tip (PCTFE)
- Straight or Angle Body Configurations
- Male and Female NPT or Dual Ferrule Tube Connections
- Suitable For Cryogenic Service
- 100% Factory Tested

Technical Data

Maximum Operating Pressure @ 100° F
Brass: 3000 Psig (207 Bar)
Stainless: 5000 Psig (345 Bar)

Temperature/Pressure Ratings

| Temperature, °F (°C) | Max. Working Pressure, Psig (Bar) | |
|--------------------------|-----------------------------------|------------|
| | Brass | 316 SS |
| - 320 (-195) to 100 (38) | 3000 (207) | 5000 (345) |
| 100 (38) to 250 (121) | 2200 (151) | 4085 (282) |
| 250 (121) to 350 (177) | 1470 (101) | 3715 (256) |
| 350 (177) to 450 (232) | - | 3435 (237) |

Temperature Range:

Metal to Metal Stem: -320° to 450° F (-195°C to 232°C)
PCTFE Soft Stem Tip: -20° to 200°F (-29° to 93°C)

Orifice: 0.17" (4.32 mm)

Flow Coefficient (Cv): 0.37

Testing

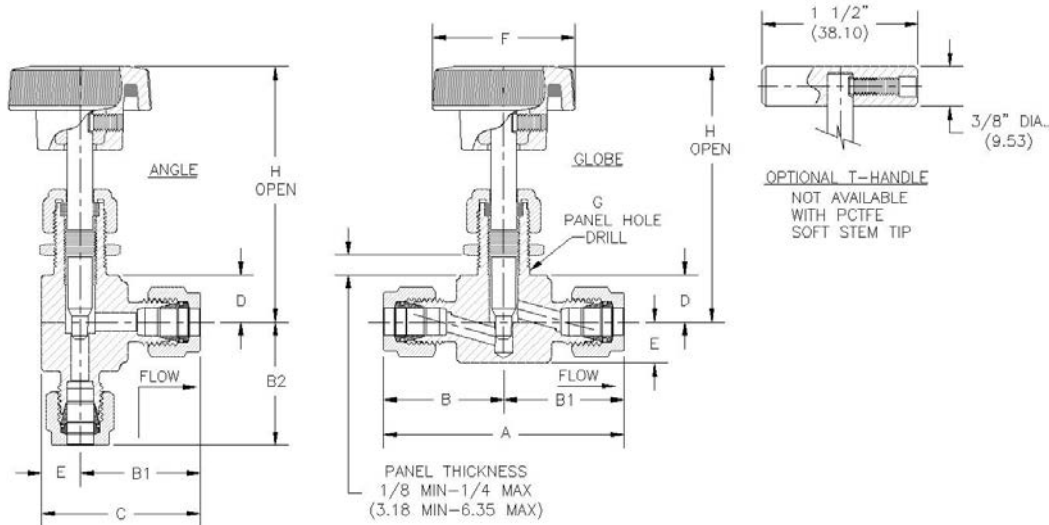
Every valve is factory tested with Nitrogen at 3000 Psig (207 Bar) for leakage. Maximum allowable seat leakage is 0.1cc/min.

Materials of Construction

| Component | Brass | Stainless |
|------------------|----------------------------------------------------|-------------------|
| Valve Body | Brass, ASTM 377 | 316 SS, ASTM A182 |
| Packing Nut | Brass, ASTM B16 | 316 SS, ASTM A479 |
| Regulating Stem | 316 SS, ASTM A479 | |
| Packing Washers | Brass, ASTM B36 | 316 SS, ASTM A479 |
| Packing | PTFE, ASTM D1710 | |
| Soft Stem Tip | PCTFE (Neoflon® M400), ASTM D1430 | |
| Panel Nut | Brass, ASTM B16 | 303 SS, ASTM A582 |
| Round Handle | Nylon 6/6 (Zytel®) with Brass Insert | |
| "T" Handle | 303 SS, ASTM A582 | |
| Handle Set Screw | 304 SS, ASTM A182 | |
| Lubricant | Oxygen Compatible Perfluoropolyether (PFPE) Grease | |



FORGED NEEDLE VALVE

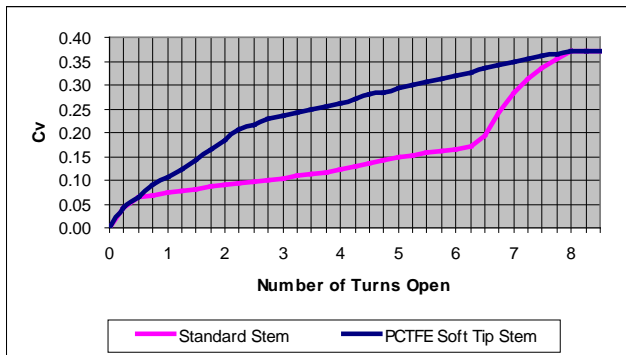


Dimensional Data

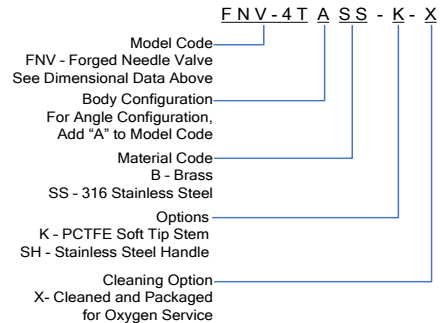
| MODEL CODE | PORT CONFIGURATION | | Dimension in inches (mm) | | | | | | | | | | |
|------------|--------------------|-----------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|---------------|
| | INLET | OUTLET | A | B | B1 | B2 | C | D | E | F | G | H (open) | Orifice |
| FNV-2T | 1/8" Tube | | 2.07 (52.58) | 1.04 (26.42) | 1.04 (26.42) | 1.04 (26.42) | 1.42 (36.07) | 0.44 (11.18) | 0.38 (9.65) | 1.34 (34.04) | 0.53 (13.46) | 2.34 (59.44) | .08 (2.03) |
| FNV-2F | 1/8" Female NPT | | 1.62 (41.15) | .81 (20.57) | .81 (20.57) | .81 (20.57) | 1.19 (30.23) | | | | | | |
| FNV-2M | 1/8" Male NPT | | 1.70 (43.18) | .85 (21.59) | .85 (21.59) | .85 (21.59) | 1.24 (31.50) | | | | | | |
| FNV-2MF | 1/8" Male NPT | 1/8" Female NPT | 1.67 (42.42) | | .81 (20.57) | .81 (20.57) | 1.19 (30.23) | | | | | | |
| FNV-2MT | 1/8" Male NPT | 1/8" Tube | 1.89 (48.01) | | 1.02 (25.91) | 1.02 (25.91) | 1.41 (35.81) | | | | | | |
| FNV-2M4T | 1/8" Male NPT | 1/4" Tube | 2.01 (51.05) | | 1.15 (29.21) | 1.15 (29.21) | 1.54 (39.12) | | | | | | |
| FNV-4T | 1/4" Tube | | 2.31 (58.67) | | 1.15 (29.21) | 1.15 (29.21) | 1.15 (29.21) | | | | | | |
| FNV-4F | 1/4" Female NPT | | 2.12 (53.85) | 1.06 (26.92) | 1.06 (26.92) | 1.11 (28.19) | 1.45 (36.83) | | | | | | |
| FNV-4M | 1/4" Male NPT | | 2.04 (51.82) | 1.02 (25.91) | 1.02 (25.91) | 1.02 (25.91) | 1.40 (35.56) | | | | | | |
| FNV-4MF | 1/4" Male NPT | 1/4" Female NPT | 2.08 (52.83) | | 1.06 (26.92) | 1.06 (26.92) | 1.45 (36.83) | | | | | | |
| FNV-4MT | 1/4" Male NPT | 1/4" Tube | 2.17 (55.12) | | 1.15 (29.21) | 1.15 (29.21) | 1.54 (39.12) | | | | | | |
| FNV-6M | 3/8" Male NPT | | 2.25 (57.15) | | 1.12 (28.45) | 1.12 (28.45) | 1.12 (28.45) | | | | | | |

Note: Dimensions are shown with Bi-Lok nuts finger-tight. Dimensions are in inches (millimeters), for reference only and subject to change. All valve bodies are 3/4" (19 mm) wide. NPT Threads per ASME B1.20.1

Flow Coefficient (Cv) @ Turns Open



How To Order



Neoflon® is a registered trademark of Daikin Industries of Japan. Zytel® is a registered trademark of DuPont.

PROPER COMPONENT SELECTION – When specifying a component, the total system design must be considered to ensure safe and trouble-free performance. Intended component function, materials compatibility, pressure ratings, installation, environment and maintenance are the responsibility of the system designer.



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