GENERANT
Valves & Bi-Lok Fittings

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 @ 100º 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: -65° to 200°F (-54° to 93°C)
NOTE: Stem Packing may begin to bind up, making valve adjustment difficult or impossible, at temperatures below -65°F.

Orifice: 0.17" (4.32 mm)

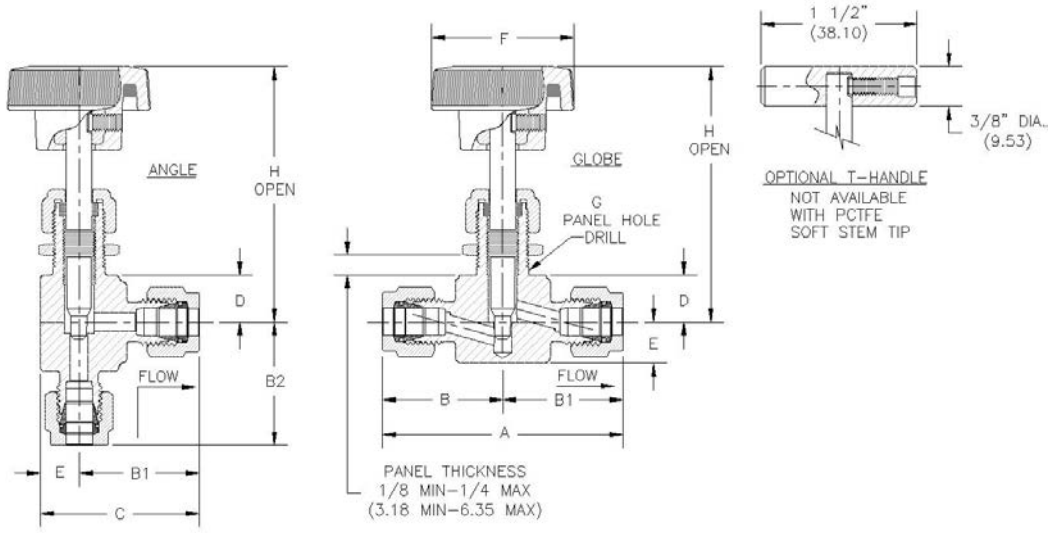
Flow Coefficient (Cv): 0.37

Internal and External Leakage:
0.1 cc/min max at 1000 PSI (69 bar).

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

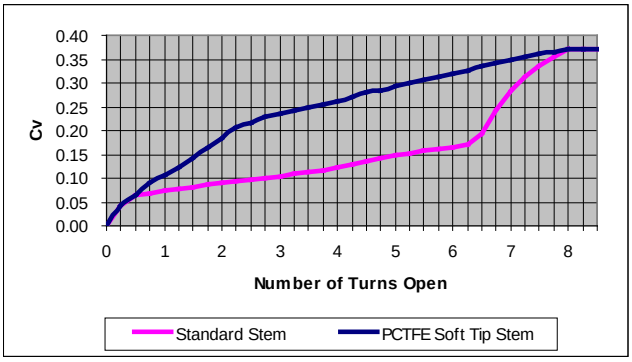


Dimensional Data

MODEL CODE	PORT CONFIGURATION		Dimension in inches (mm)										
	INLET	OULET	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)						.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)		1.19 (30.23)						
FNV-2MT	1/8" Male NPT	1/8" Tube	1.89 (48.01)		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)	0.44 (11.18)	0.38 (9.65)	1.34 (34.04)	0.53 (13.46)	2.34 (59.44)	0.17 (4.32)
FNV-4T	1/4" Tube		2.31 (58.67)	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)		1.45 (36.83)						
FNV-4MT	1/4" Male NPT	1/4" Tube	2.17 (55.12)		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)	1.51 (38.35)						

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

F N V - 4 T A S S - K - X

- Model Code: FNV - Forged Needle Valve. See Dimensional Data Above
- Body Configuration: For Angle Configuration, Add "A" to Model Code
- Material Code: B - Brass; SS - 316 Stainless Steel
- Options: K - PCTFE Soft Tip Stem; SH - Stainless Steel Handle
- Cleaning Option: X- Cleaned and Packaged for Oxygen Service

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