

FORGED NEEDLE VALVE, ML STAINLESS
1/4" to 1/2" NPT
3/8" to 3/4" Dual Ferrule Tube Connection
Vacuum - 6000 Psig (414 Bar)

FNV ML STAINLESS SERIES

Description

Series FNV ML Stainless Forged Needle Valves feature a forged body, integral bonnet design with spring loaded PTFE and stainless steel wafer stem packing. Valves provide long life, leak-tight service from vacuum to the maximum operating pressure. Series FNV ML Stainless Forged Needle Valves are available in Straight and Angle configurations and with NPT and Dual Ferrule Tube connections. Valves come ready to panel mount and with stainless steel stem tip standard for a metal to metal internal seal but user can specify Soft Tip (PCTFE) stem. Both provide accurate metering over a wide range of pressures. All valves can be ordered Cleaned for Oxygen Service.

Features

- Spring Loaded Stainless Steel / PTFE Wafer Stem Packing provides low operating torque and long lasting stem seal.
- Panel Mounting Standard
- Metal to Metal Standard, Optional Soft Stem Tip (PCTFE)
- Straight or Angle Body Configurations
- Male NPT, Female NPT, or Dual Ferrule Tube Connections
- Suitable For Cryogenic Service
- 100% Factory Tested

Technical Data

Max Working Pressure (Temperature Dependent):

Temperature	Max. Working Pressure, Psig (Bar)
- 320°F to 300°F (-196°C to 149°C)	6000 (413.7)
300°F to 400°F (149°C to 204°C)	5640 (388.9)
400°F to 450°F (204°C to 232°C)	5480 (377.9)

Usable Temperature per Stem Type:

Metal Stem Tip: -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.

Maximum Flow Coefficient:

Dependent on Orifice Size, see Dimensional Data.

Orifice Size	Cv
0.250"	0.65
0.375"	1.60

Additional Flow Information provided in chart on next page.

Internal and External Leakage:

0.1 cc/min max at 1000 PSI (69 Bar).

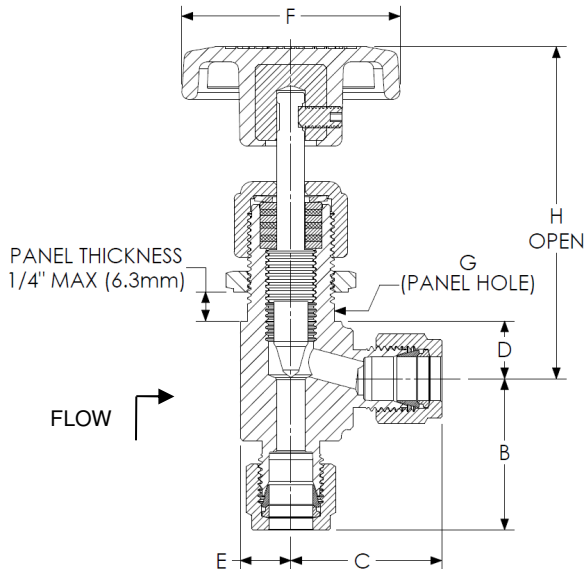
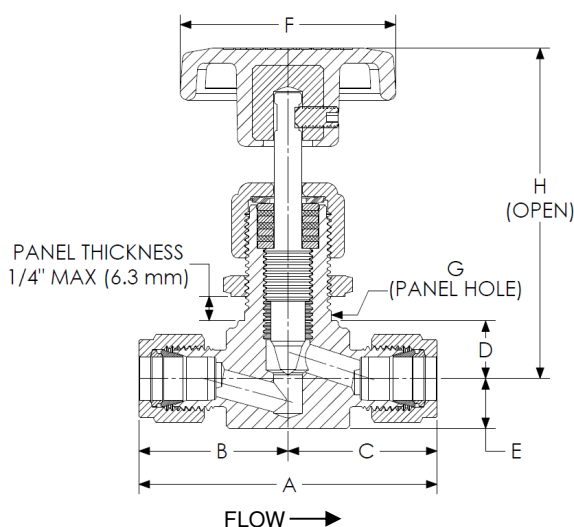
Materials of Construction

Component	Material
Valve Body	316 SS, ASTM A182
Packing Nut	316 SS, ASTM A479
Regulating Stem	
Packing Washers	
Packing	PTFE, ASTM D1710
Spring Washer	302 Stainless Steel
Soft Stem Tip	PCTFE, ASTM D1430
Panel Nut	303 SS, ASTM A582
Round Handle*	Anodized Aluminum
T-Handle*	303 SS, ASTM A582
Handle Set Screw	304 SS, ASTM A182
Lubricant	Oxygen Compatible Perfluoropolyether (PFPE) Grease

*0.250" orifice valves supplied with round handle standard, T-Handle option is available. 0.375" orifice valves supplied with T-Handle standard.



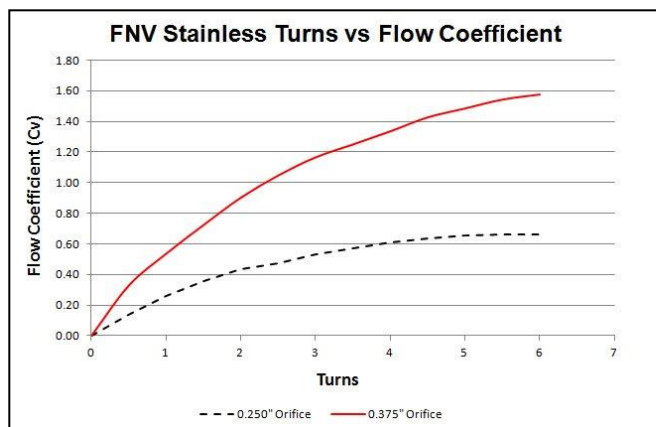
FORGED NEEDLE VALVE



Dimensional Data

MODEL CODE	PORT CONFIGURATION		Dimension in inches (mm)									Handle
	INLET	OUTLET	A	B	C	D	E	F	G	H	Orifice	
FNV-6TSSM	3/8" Dual Ferrule Tube		2.58 (65.5)	1.29 (32.8)		0.50 (12.7)	0.44 (11.2)	1.87 (47.5) OR 2.20 (55.9) (SH Option)	0.78 (19.8)	2.86 (72.6)	0.25 (6.4)	Round Knob OR Optional T-Handle (SH Option)
FNV-8TSSM	1/2" Dual Ferrule Tube		2.76 (70.1)	1.38 (35.1)								
FNV-4FSSM	1/4" NPT Female		2.12 (53.8)	1.06 (26.9)								
FNV-6MSSM	3/8" NPT Male		2.26 (57.4)	1.13 (28.7)								
FNV-4M6TSSM	1/4" NPT Male	3/8" Tube	2.42 (61.5)	1.13 (28.7)	1.29 (32.8)							
FNV-6MTSSM	3/8" NPT Male	3/8" Tube	2.19 (55.6)	1.13 (28.7)	1.06 (26.9)							
FNV-6M8TSSM	3/8" NPT Male	1/2" Tube	2.51 (63.8)	1.13 (28.7)	1.38 (35.1)							
FNV-4MFSSM	1/4" NPT Male	1/4" NPT Female	2.19 (55.6)	1.13 (28.7)	1.06 (26.9)							
FNV-8TSSL	1/2" Dual Ferrule Tube		3.80 (96.5)	1.90 (48.3)		0.75 (19.0)	0.60 (15.2)	3.00 (76.2)	1.03 (26.2)	3.82 (97.0)	0.38 (9.5)	T-Handle
FNV-12TSSL	3/4" Dual Ferrule Tube											
FNV-6FSSL	3/8" NPT Female		3.00 (76.2)	1.50 (38.1)								
FNV-8FSSL	1/2" NPT Female											
FNV-8MSSL	1/2" NPT Male											
FNV-8MFSSL	1/2" NPT Male	1/2" NPT Female										

Note: Dimensions are shown with Bi-Lok nuts finger-tight. Dimensions are in inches (millimeters), for reference only and subject to change. NPT Threads per ASME B1.20.1



How To Order

FNV-6TSSM - K - X

MODEL CODE

FNV-___ - Forged Needle Valve
See Dimensional Data Above.
For Angle Configuration, Insert "A"
before "SS" material code.
E.G. "FNV-6TASSM"

OXYGEN CLEAN

X - Cleaned and Packaged
for Oxygen Service

OPTIONS

K - PCTFE Soft Tip Stem
SH - T-Handle

PROPER COMPONENT SELECTION: When specifying a component, 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.

GENERANT

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