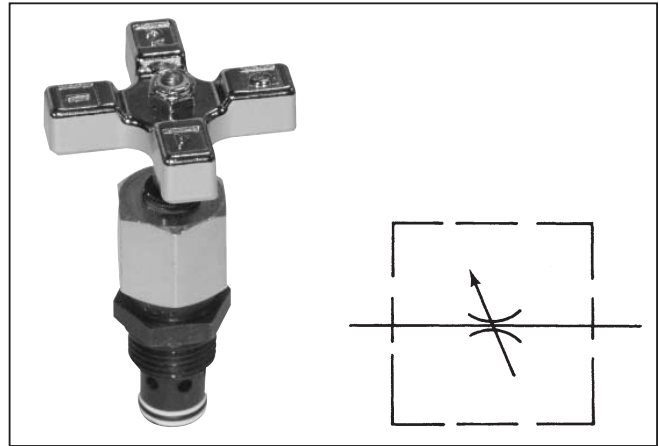


**General Description**

Series MVI cartridge-type needle valves are designed for installation in a precision-machined cavity made in the manifold of the machine. Detailed instructions for machining the required cavity for the valve are given on page 27.

Properly installed in precision-machined cavities, these needle valves provide precise metering control and full shutoff of flow. An o-ring and backup ring installed on the cartridge fully isolate the inlet and outlet ports of the machined cavity from each other.



**Features**

- The exclusive “Colorflow” color-band reference scale on the valve stem is a great convenience and time-saver in setting the valve originally and in returning it to any previous setting.
- Fine and Micro-fine needles available for extremely fine control.
- High efficiency o-ring stem seal that eliminates packing.

**Specifications**

<b>Maximum Operating Pressure</b>	340 Bar (5000 PSI)
<b>Flow</b>	See table
<b>Material</b>	Steel, compatible in steel or aluminum manifold block cavities
<b>Temperature Range of Seal Compound</b>	-40°C to +121°C (-40°F to +250°F) Nitrile (standard) -26°C to +205°C (-15°F to +400°F) Fluorocarbon

**Ordering Information**

**MVI**  
 Cartridge  
 Needle Valve

Size

Code	Size
400	1/4"
600	3/8"
800	1/2"
1200	3/4"

**S**  
 Material

Code	Description
S	Steel

Optional  
 Needle

Code	Description
Omit	Standard
2 *	Fine
3 *	Micro-fine

\* Available on MVI400 only.

Seals

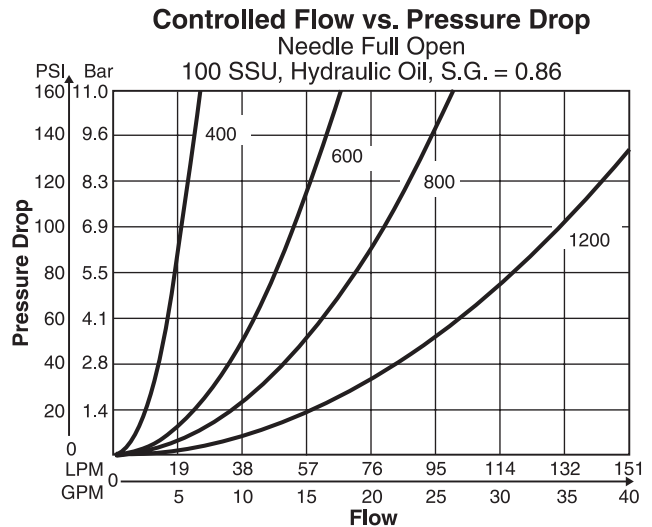
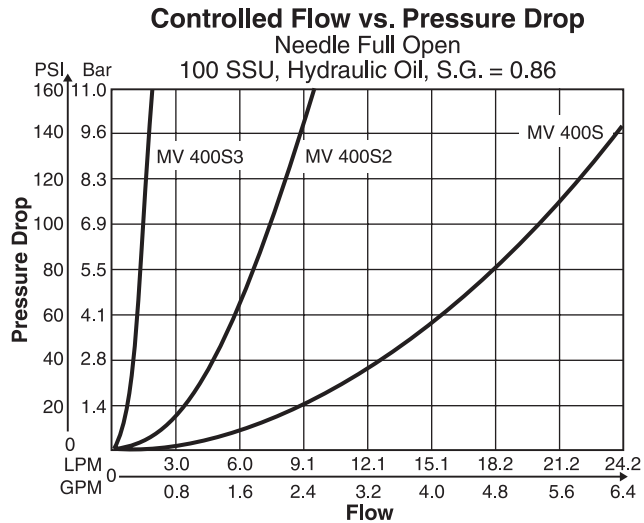
Code	Description
Omit	Nitrile
V	Fluorocarbon

**Flow Data**

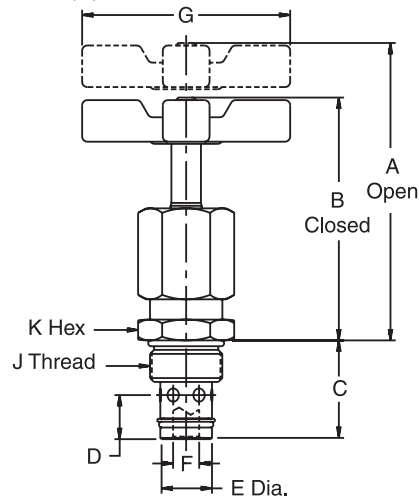
Valve Model	Maximum Flow	$\Delta P$ @ Maximum Flow	Orifice Area in <sup>2</sup> Full Open	C <sub>v</sub> * Factor	Valve Size
MVI400	19 LPM (5 GPM)	7 Bar (100 PSI)	0.0216	0.493	1/4"
MVI400-2	11 LPM (2.8 GPM)	14 Bar (200 PSI)	0.0081	0.186	1/4"
MVI400-3	2 LPM (0.5 GPM)	14 Bar (200 PSI)	0.0014	0.032	1/4"
MVI600	30 LPM (8 GPM)	2 Bar (35 PSI)	0.0567	1.294	3/8"
MVI800	57 LPM (15 GPM)	3 Bar (45 PSI)	0.0845	1.930	1/2"
MVI1200	95 LPM (25 GPM)	4 Bar (51 PSI)	0.1400	3.205	3/4"

\* C<sub>v</sub> factor – Flow of water in GPM that valve will pass @  $\Delta P$  of 0.1 Bar (1 PSI).

**Performance Curves**

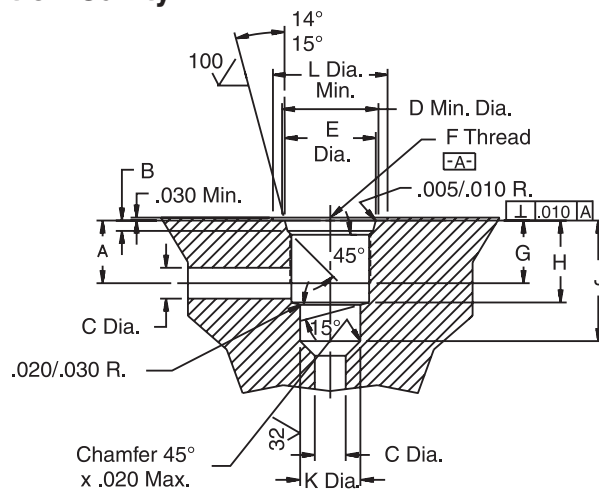


Inch equivalents for millimeter dimensions are shown in (\*\*)



Model Number	A	B	C	D	E	F	G	J	K	Weight
MVI400S *	64.5 (2.54)	59.4 (2.34)	25.4 (1.00)	10.9 (0.43)	14.2 (0.56)	4.6 (0.18)	50.8 (2.00)	3/4-16UNF-2A	22.1 (0.87)	0.2 kg (0.4 lb.)
MVI600S	80.3 (3.16)	72.6 (2.86)	30.0 (1.18)	13.5 (0.53)	15.7 (0.62)	7.9 (0.31)	63.5 (2.50)	7/8-14UNF-2A	25.4 (1.00)	0.3 kg (0.6 lb.)
MVI800S	91.2 (3.59)	78.5 (3.09)	39.6 (1.56)	15.2 (0.60)	20.3 (0.80)	9.4 (0.37)	82.6 (3.25)	1 1/16-12UN-2A	31.8 (1.25)	0.5 kg (1.2 lb.)
MVI1200S	101.6 (4.00)	87.6 (3.45)	43.4 (1.71)	19.1 (0.75)	26.9 (1.06)	11.7 (0.46)	98.3 (3.87)	1 5/16-12UN-2A	38.1 (1.50)	0.9 kg (2.0 lb.)

**Machining Detail Installation Cavity**



Model Number	A	B	C	D	E	F	G	H	J	K	L
MVI400S *	14.2 (0.56)	2.5/2.9 (0.100/0.115)	5.3 (0.21)	22.1 (0.87)	20.6/20.7 (0.811/0.816)	3/4-16 UNF-2B	14.2 (0.56)	17.8 (0.70)	26.9 (1.06)	14.3/14.3 (0.562/0.564)	30.2 (1.19)
MVI600S	16.5 (0.65)	2.5/2.9 (0.100/0.115)	8.1 (0.32)	25.4 (1.00)	23.9/24.1 (0.942/0.947)	7/8-14 UNF-2B	16.5 (0.65)	21.6 (0.85)	31.8 (1.25)	15.8/15.9 (0.624/0.626)	34.1 (1.34)
MVI800S	24.1 (0.95)	3.3/3.7 (0.130/0.145)	10.2 (0.40)	31.8 (1.25)	29.2/29.3 (1.148/1.153)	1 1/16-12 UN-2B	19.1 (0.75)	30.0 (1.18)	41.1 (1.62)	20.6/20.7 (0.811/0.813)	41.4 (1.63)
MVI1200S	24.6 (0.97)	3.3/3.7 (0.130/0.145)	12.7 (0.50)	38.1 (1.50)	35.5/35.6 (1.398/1.403)	1 5/16-12 UN-2B	19.1 (0.75)	31.8 (1.25)	45.2 (1.78)	26.9/27.0 (1.062/1.064)	48.5 (1.91)