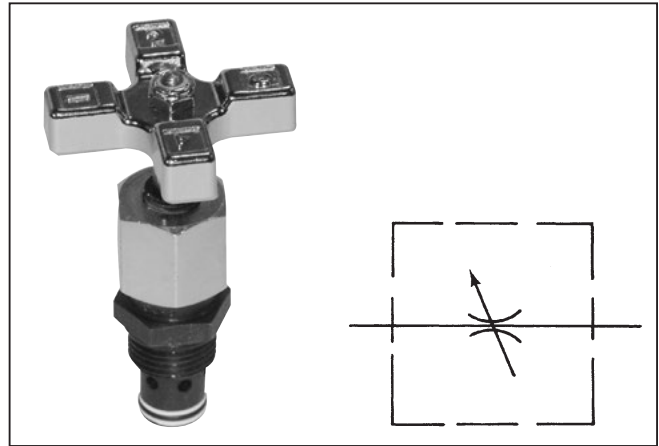


General Description

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 23.

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

Maximum Operating Pressure	340 Bar (5000 PSI)
Flow	See table
Material	Steel, compatible in steel or aluminum manifold block cavities
Temperature Range of Seal Compound	-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

WARNING: This product can expose you to chemicals including Lead, Nickel (Metallic), or 1,3-Butadiene which are known to the State of California to cause cancer, and Lead or 1,3-Butadiene which is known to the State of California to cause birth defects and other reproductive harm. For more information go to www.P65Warnings.ca.gov.

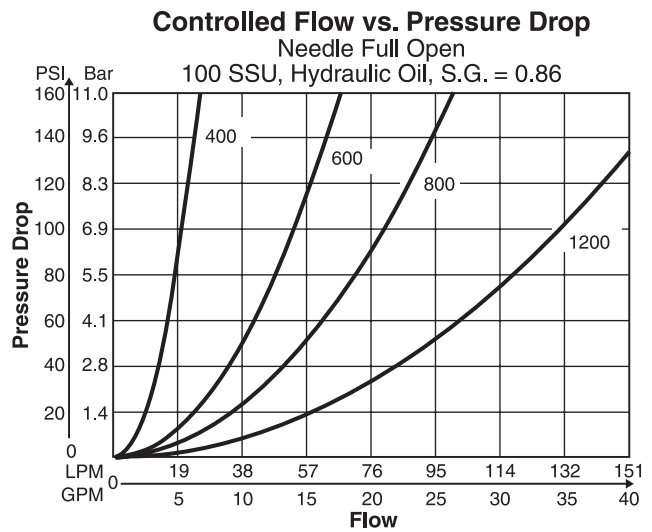
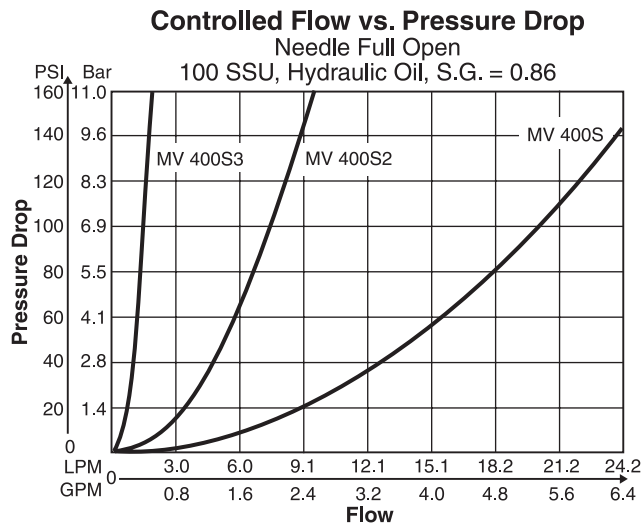
Cat3300_02.indd, ddp, 04/19

Flow Data

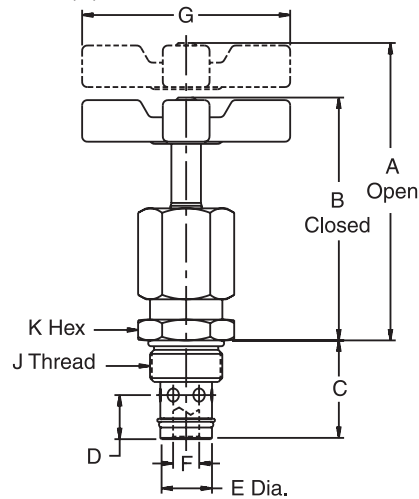
Valve Model	Maximum Flow	ΔP @ Maximum Flow	Orifice Area in ² Full Open	C _v * Factor	Valve Size
MVI400	19 LPM (5 GPM)	7 Bar (100 PSI)	0.0216	0.493	1/4"
MVI400-2	11 LPM (2.8 GPM)	14 Bar (200 PSI)	0.0081	0.186	1/4"
MVI400-3	2 LPM (0.5 GPM)	14 Bar (200 PSI)	0.0014	0.032	1/4"
MVI600	30 LPM (8 GPM)	2 Bar (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_v factor – Flow of water in GPM that valve will pass @ ΔP of 0.1 Bar (1 PSI).

Performance Curves

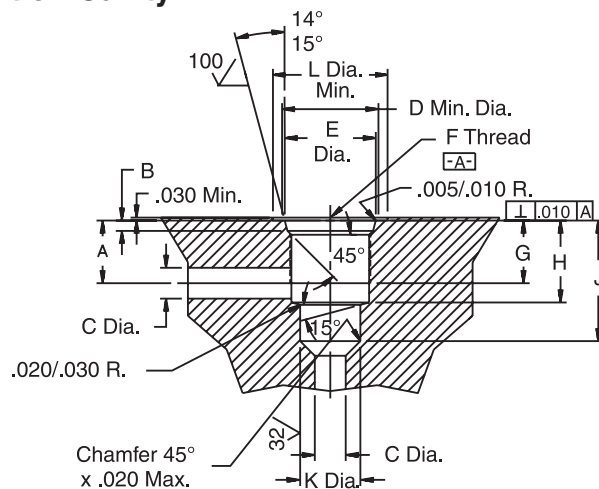


Inch equivalents for millimeter dimensions are shown in (**)



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)