

## Cartridge-Type Needle Valves Series MVI

These 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 J27.

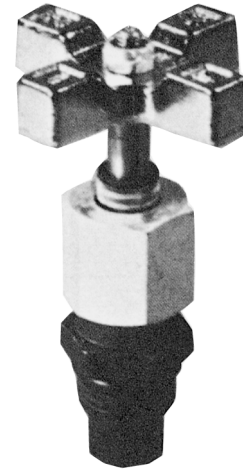
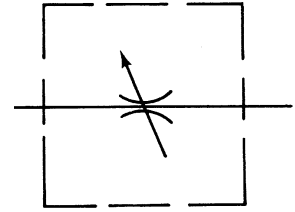
Series MVI cartridge-type needle valves properly installed in precision-machined cavities provide precise metering control and full shutoff of flow. An O-ring and backup ring installed on the cartridge fully isolate the inlet and outlet ports of the machined cavity from each other.

Valves are steel. They work quite compatibly in cavities machined in steel or aluminum manifold blocks.

Choice of three needles: Standard 30° taper, optional fine V-notch for Series MVI400 valves only, and optional 0.006" slotted for Series MVI400 only.

Pressure: 5000 PSI (340 Bar), max.

Flow: See table.



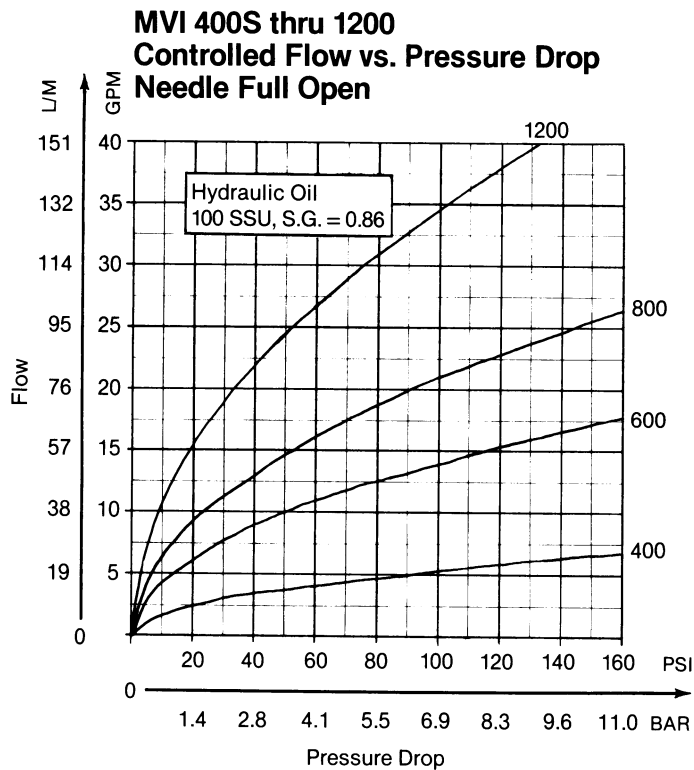
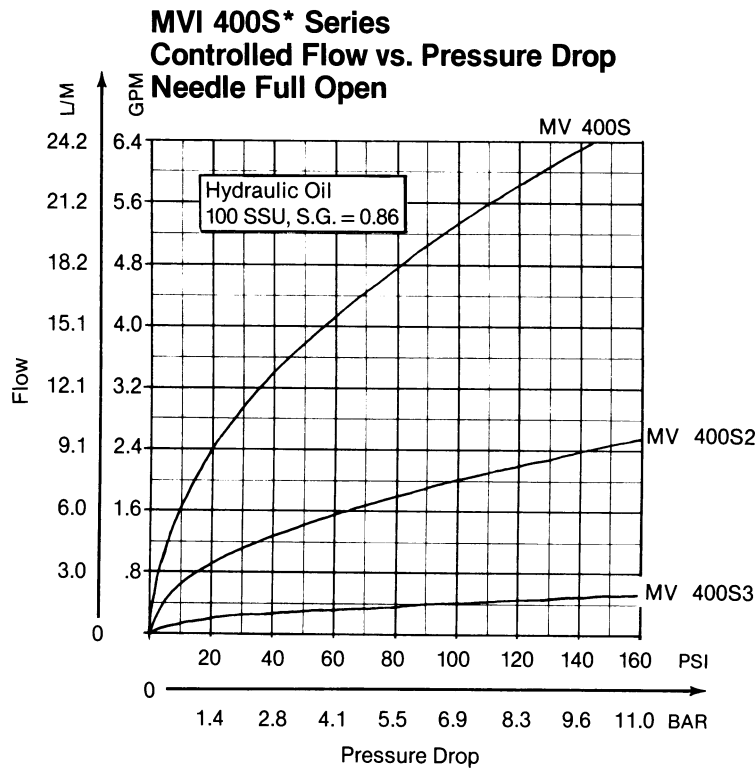
### Quick Reference Data Chart

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

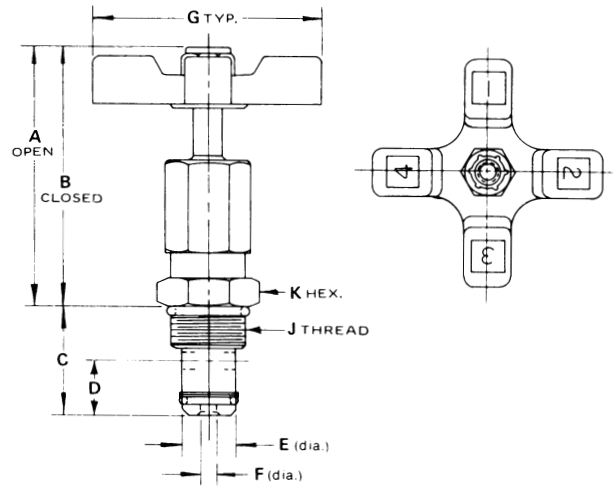
\*C<sub>v</sub> factor — Flow of water in GPM that valve will pass @  $\Delta P$  of 1 PSI.



**Performance Data**

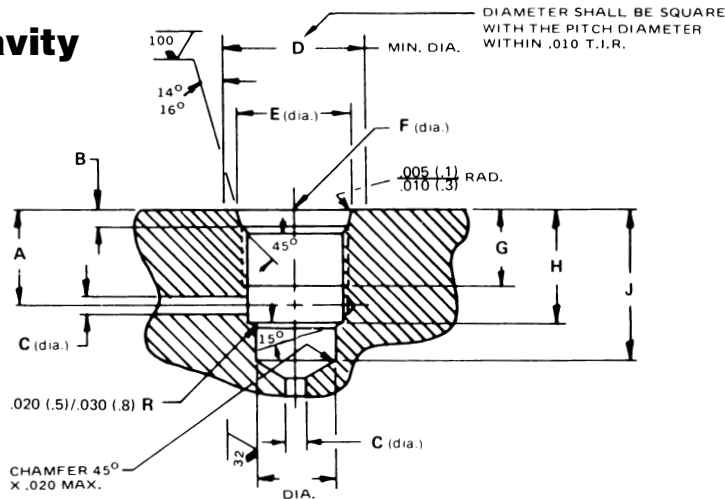


**Dimensions**



Valve Model	A	B	C	D	E	F	G	J	K	Wt. lb. (kg)
MVI400S*	2.54 (64.5)	2.34 (59.4)	1.00 (25.4)	0.43 (10.9)	.56 (14.2)	.18 (4.6)	2.00 (50.8)	3/4-16UNF-2A	.87 (22.1)	0.4 (0.2)
MVI600S	3.16 (80.3)	2.86 (72.6)	1.18 (30.0)	0.53 (13.5)	.62 (15.7)	.31 (7.9)	2.50 (63.5)	7/8-14UNF-2A	1.00 (25.4)	0.6 (0.3)
MVI800S	3.59 (91.2)	3.09 (78.5)	1.56 (39.6)	0.60 (15.2)	.80 (20.3)	.37 (9.4)	3.25 (82.6)	1-1/16-12UN-2A	1.25 (31.8)	1.2 (0.5)
MVI1200S	4.00 (101.6)	3.45 (87.6)	1.71 (43.4)	0.75 (19.1)	1.06 (26.9)	.46 (11.7)	3.87 (98.3)	1-5/16-12UN-2A	1.50 (38.1)	2.0 (0.9)

**Machining the Cavity**



Valve Model	A	B	C	D	E	F	G	H	J	K
MVI400S	.56 (14.2)	.100/.115 (2.5/2.9)	.21 (5.3)	.87 (22.1)	.811/.816 (20.6/20.7)	3/4-16 UNF-2B	.56 (14.2)	.70 (17.8)	1.06 (26.9)	.562/.564 (14.3/14.3)
MVI600S	.65 (16.5)	.100/.115 (2.5/2.9)	.32 (8.1)	1.00 (25.4)	.942/.947 (23.9/24.1)	7/8-14 UNF-2B	.65 (16.5)	.85 (21.6)	1.25 (31.8)	.624/.626 (15.8/15.9)
MVI800S	.95 (24.1)	.130/.145 (3.3/3.7)	.40 (10.2)	1.25 (31.8)	1.148/1.153 (29.2/29.3)	1-1/16-12 UN-2B	.75 (19.1)	1.18 (30.0)	1.62 (41.1)	.811/.813 (20.6/20.7)
MVI1200S	.97 (24.6)	.130/.145 (3.3/3.7)	.50 (12.7)	1.50 (38.1)	1.398/1.403 (35.3/35.6)	1-5/16-12 UN-2B	.75 (19.1)	1.25 (31.8)	1.78 (45.2)	1.062/1.064 (26.9/26.9)

**Ordering Information**

