

Metering Valve

MV1 Series



- ❖ Maximum working pressure up to 2000 psig (137 bar)
- ❖ Working temperature from -10°F to 400°F (-23°C to 204°C)
- ❖ One-piece forged body
- ❖ Orifice size is 0.032" (0.81 mm)
- ❖ Straight, angle, cross and double patterns

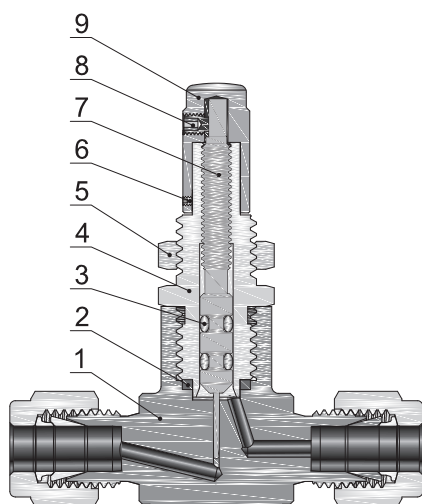
Features

- ❖ Maximum working pressure up to 2000 psig (137 bar)
- ❖ Working temperature from -10°F to 400°F (-23°C to 204°C)
- ❖ Orifice size: 0.032" (0.81 mm)
- ❖ Stem taper: 1°
- ❖ Shutoff service: not available
- ❖ Panel mountable
- ❖ Straight, angle, cross and double pattern
- ❖ Knurled, Adjustable-Torque, Vernier handle
- ❖ Variety of end connections

Temperature Ranges for Different seal Materials

Seal Material	Temperature Range°F (°C)
Buna N	-10 to 300 (-23 to 148)
Ethylene Propylene	-10 to 300 (-23 to 148)
Fluorocarbon FKM	-10 to 400 (-23 to 204)
Kalrez	0 to 300 (-17 to 148)
Neoprene	-10 to 250 (-23 to 121)

Standard Materials of Construction

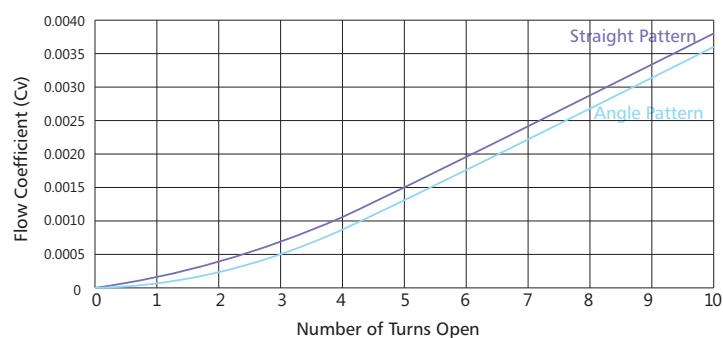


Component		Material Grade/ASTM Specification	
		316 S.S.	Brass
1	Body	316 S.S./A182	Silver-mist chrome-plated C37700/B283
2	Body seal	Fluorocarbon FKM	Buna N
3	O-ring	Fluorocarbon FKM	Buna N
4	Bonnet	316 S.S./A479	Silver-mist chrome-plated C34500/B453
5	Panel nut	316 S.S./A479	Silver-mist chrome-plated C36000/B16
6	Lock Screw	Black oxide alloy steel/ANSI 18.3	
7	Handle Screw	Black oxide alloy steel/ANSI 18.3	
8	Stem	Hard chrome-plated S17400 S.S./A564	
9	Handle	300 S.S./A276	Silver-mist chrome-plated C36000/B16

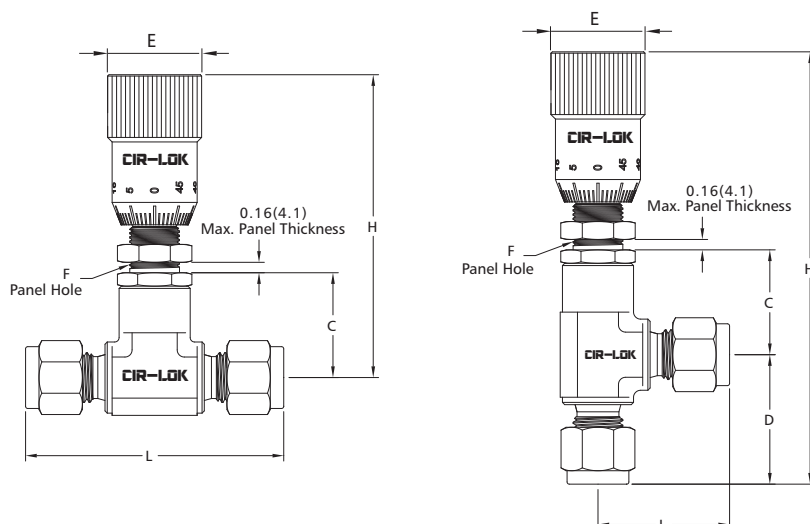
Flow Data at 70°F (20°C)

Pressure Drop to Atmosphere psig (bar)	Air Flow std ft ³ /min (std L/min)	Water Flow U.S. gal/min (L/min)
10 (0.69)	0.04 (1.1)	0.01 (0.03)
50 (3.45)	0.10 (2.8)	0.02 (0.07)
100 (6.90)	0.20 (5.6)	0.04 (0.15)

Flow Coefficient at Turns Open

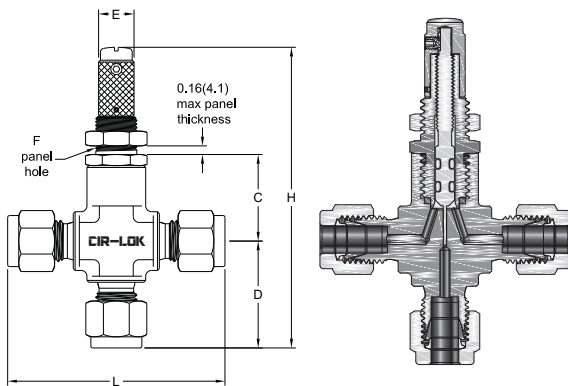


Dimensions

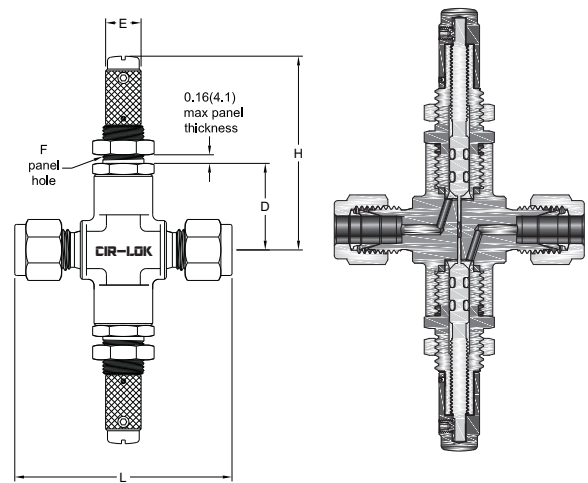


Basic Ordering Number	Connection Type and Size	Dimension, in. (mm)					
		H	L	C	D	E	F
Straight Pattern							
MV1-F1-	1/16" CIR-LOK	2.34 (59.4)	1.56 (39.6)	0.92 (23.4)	—	0.83 (21.0)	0.45 (11.4)
MV1-F2-	1/8" CIR-LOK		1.90 (48.3)				
MV1-F4-	1/4" CIR-LOK		2.04 (51.8)				
MV1-M3-	3 mm CIR-LOK		1.90 (48.3)				
MV1-M6-	6 mm CIR-LOK		2.04 (51.8)				
Angle Pattern							
MV1-F1-	1/16" CIR-LOK	3.22 (81.8)	0.81 (20.6)	0.92 (23.4)	0.88 (22.4)	0.83 (21.0)	0.45 (11.4)
MV1-F2-	1/8" CIR-LOK	3.32 (84.3)	0.98 (24.9)		0.98 (24.9)		
MV1-F4-	1/4" CIR-LOK	3.36 (85.3)	1.02 (25.9)		1.02 (25.9)		
MV1-M3-	3 mm CIR-LOK	3.32 (84.3)	0.98 (24.9)		0.99 (25.1)		
MV1-FNPT2-	1/8 Female NPT	3.07 (78.0)			0.98 (24.9)		

Cross Pattern



Double Pattern



1. Fluid flows between side ports around stem in any stem position.
2. Fluid flows through branch port can be metered in both directions.

Inlet valve handle can be set and locked at desired maximum flow, outlet valve handle can be used for fine flow control up to the preset maximum of the inlet valve.

Basic Ordering Number	Connection Type and Size	Cv	Dimension, in. (mm)					
			H	L	C	D	E	F
Cross Pattern								
MV1-F2-	1/8" CIR-LOK	0.004	3.32 (84.3)	1.96 (49.8)	0.98 (24.9)	0.92 (23.4)	0.38 (9.6)	0.45 (11.4)
MV1-M3-	3 mm CIR-LOK				0.99 (25.1)			
Double Pattern								
MV1-F2-	1/8" CIR-LOK	0.001	2.34 (59.4)	1.90 (48.3)	—	0.92 (23.4)	0.38 (9.6)	0.45 (11.4)
MV1-M3-	3 mm CIR-LOK							

Optional Handles

Slotted Handle

- ❖ Flow setting adjustment is available with a screwdriver
- ❖ Ideal for installation where access to handle



Vernier Handle

- ❖ Repeatable flow setting
- ❖ Adjustment accurate to 1/25 turn (1/1000 of an inch)



How to Order

MV1 — NPT4 — M6 — EV — A — 316								
Series	Inlet Type	Inlet Size	Outlet Type	Outlet Size	O-Ring Material	Handle Type	Flow Pattern	Material
MV1	FNPT Female NPT	1 1/16 in.	Same as inlet type and inlet size		Fluorocarbon FKM	Knurled, round	Straight	316 316 S.S.
	NPT Male NPT	2 1/8 in.			B Buna N	A Adjustable-Torque	A Angle	316L 316L
	FBT Female BSPT	3 3 mm	If outlet and inlet are the same, eliminate the outlet designator		E Ethylene propylene	V Vernier	D Double	304 304
	MBT Male BSPT	4 1/4 in.			N Neoprene		C Cross	304L 304L
	FMS Female ISO 261	6 3/8 in. or 6 mm			Z Kalrez			BR Brass
	MS Male ISO 261	8 1/2 in. or 8 mm						
	FBP Female BSPP	10 10 mm						
	MBP Male BSPP	12 3/4 in. or 12 mm						
	F Fractional Tube Fitting							
	M Metric Tube Fitting							
	GFS Male GFS Fitting							