



Catalog No, H-MT100  
Jun. 2023

# Metering Valves

## MT1 Series



Pressure up to 5000psig (345bar)  
Temperature up to 600 °F (316 °C)  
Sizes form 1/8" to 1/4" (3mm to 6mm)  
Straight & Angle pattern body

Positive leak tight  
Flow Coefficients (Cv)  
1° stem = 0.010  
3° stem = 0.024

**HY-LOK CORPORATION**

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Features

Stem threads

- are rolled and electroless nickel plated for maximum service life.

Seat

- orifice 0.047"(1.2mm)
- orifice 0.031"(0.8mm)

Forged Body

- is available with straight and angle pattern.

Variety of End Connections

- include hy-lok tube fittings, male/female NPT threads, male/female ISO threads.

Best Suited Standard Handles

- Black anodized aluminum handle
- Black phenolic knob handle (Optional)
- Vernier handle (Optional)

Panel Mounting Nut

- allows easy mounting.

Panel Mount Thickness

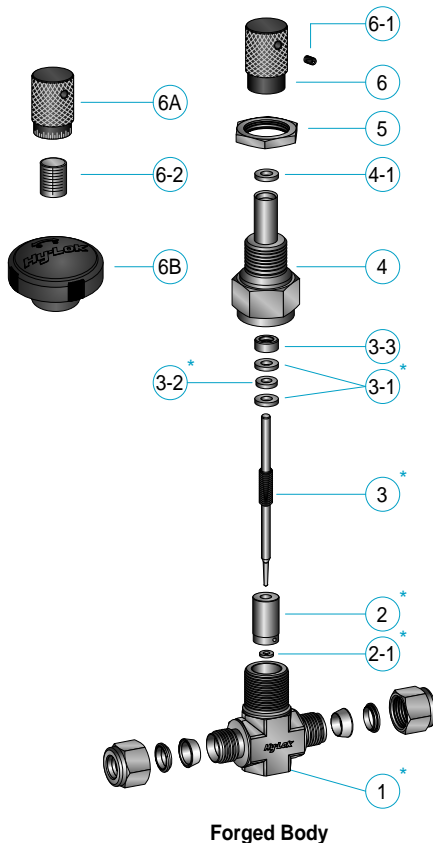
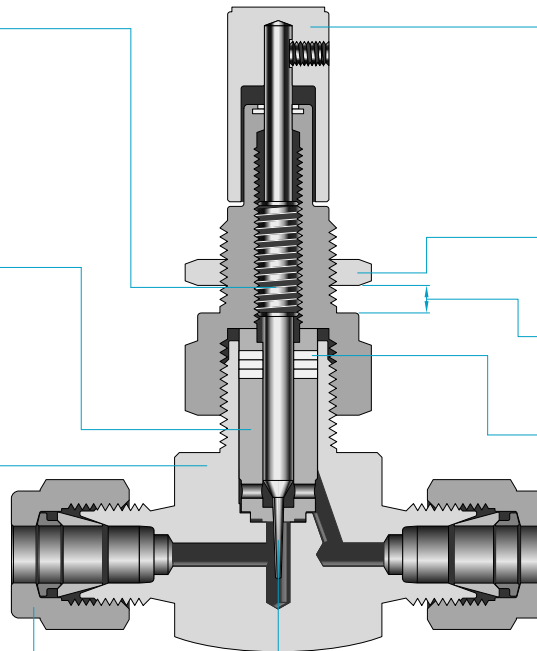
- 3.2min. to 6.4max. (1/8min. to 1/4max.)

Packing Materials

- are available in PTFE (Standard) and PEEK. (Option)

Tapered Stem Tip

- provide a wide flow range with ultra fine metering control.
- 1° Stem & 3° Stem
- Metering accuracy - 18 turn displacement of stem



Materials of Construction

No.	Description	Grade / ASTM Specification	
		SS316	Brass
1	Body *	SS316 / A182	C377 / B283
2	Seat *	SS316 / A276 or A479	
2-1	Seat Packing *	PTFE	
3	Stem *	1°	SS316 / A276 or A479
		3°	SS316 / A276 or A479
3-1	Packing *	PTFE	
3-2	Packing Washer *	SS316 / A276 or A479	
3-3	Packing Gland	SS316 / A276 or A479	
4	Bonnet	SS316 / A276 or A479	
4-1	Bonnet Packing	PTFE	
5	Panel Nut	SS316 / A276 or A479	C360 / B16
6	Handle	Black anodized Aluminum	
6A	Vernier Handle	Black anodized Aluminum	
6B	Knob Handle	Black Phenolic Knob	
6-1	Handle Bolt	Stainless Steel	
6-2	Handle Indicator	Stainless Steel	

Note : " \* " marked are wetted parts.

## Technical Data

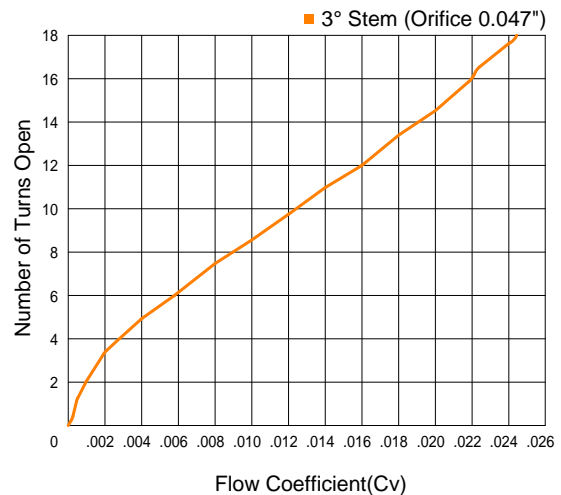
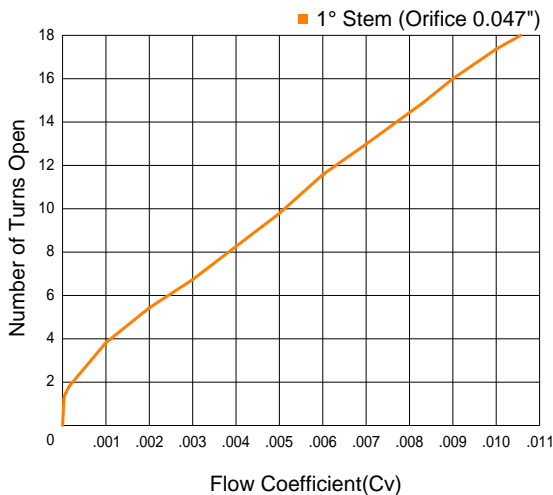
### Pressure-Temperature Ratings

- PTFE (Standard) used up to 450°F (232°C)
- PEEK (Optional) used up to : 316 Stainless Steel 600°F (316°C)

ASME Class	2080	N/A
Material Group	2.2	N/A
Materials	316 SS	Brass
Temperature	Working Pressure (psig)	
-65°F (-54°C) to -20°F (-29°C)	5000 (344)	3000 (206)
100°F (38°C)	5000 (344)	3000 (206)
200°F (93°C)	4295 (295)	2600 (179)
300°F (148°C)	3875 (266)	2210 (152)
400°F (204°C)	3560 (245)	740 (51)
450°F (232°C)	3435 (236)	-
500°F (260°C)	3310 (228)	-
600°F (316°C)	3130 (215)	-

- To determine kPa, multiply psig by 6.89 and bar by 0.0689
- When valves with Hy-Lok Fitting end connections are connected to tubing, the working pressure of tubing must be the considered in the caculation of total system working pressure
- Extreme temperature fluctuations may require packing adjustment

## Flow Data



## Handle

- Standard : Black anodized aluminum handle
- Optional : Black phenolic knob handle  
Vernier handle

## Testing

- Each valve is tested with nitrogen @ 1000 psig (69bar) to max. leak rate of 0.1SCCM.
- Hydrostatic shell test is performed at 1.5 times the working pressure.
- Optional tests are available upon request.

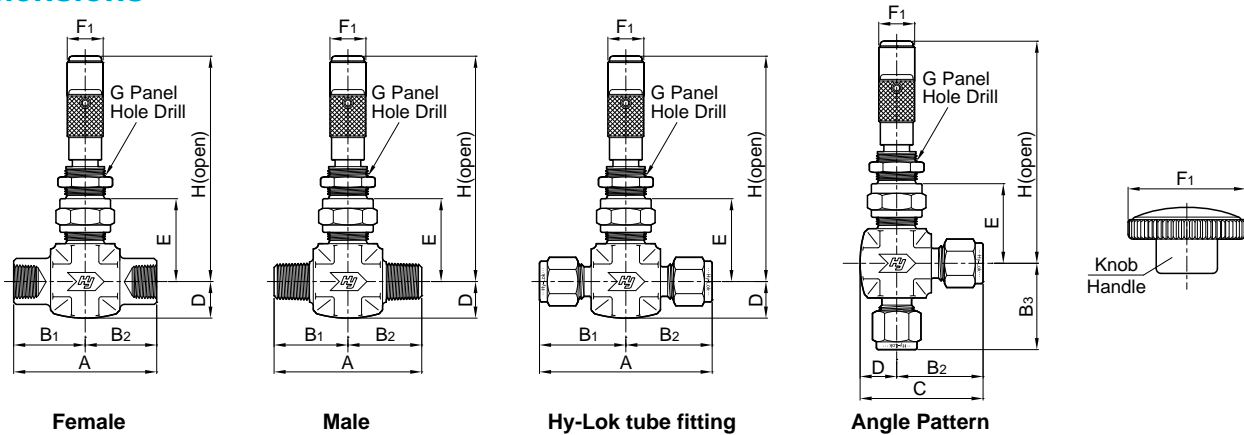
## Sour Gas Service

- This service is provided to meet NACE Standard MR-0175 & MR-0103.

## Cleaning and Packaging

- All metering valves are cleaned and packaged in accordance with Hy-Lok standard cleaning and packaging.
- A special cleaning and packaging are available as an option.

Dimensions



End Connections		Ordering Number	Dimensions in. (mm)										
Inlet&Outlet	Size		A	B1	B2	B3	C	D	E	F1	F2	G	H
Female NPT	1/8"	MT*F-2N	1.65 (42.0)		0.82 (21.0)		1.13 (28.9)	0.31 (7.9)					
Male NPT	1/8"	MT*M-2N	1.50 (38.2)		0.75 (19.1)		1.06 (26.9)						
	1/4"	MT*M-4N	0.51 (50.0)		0.98 (25.0)		1.33 (33.7)	0.34 (8.7)					
Male/Female NPT	1/8"	MT*MF-2N	1.58 (40.1)	0.75 (19.1)	0.82 (21.0)	0.75 (19.1)	1.13 (28.9)	0.31 (7.9)					
Male NPT Hy-Lok tube fittings	1/8"	MT*MH-2N2T	1.72 (43.7)	0.75 (19.1)	0.96 (24.6)	0.75 (19.1)	1.27 (32.5)	0.31 (7.9)	0.98 (24.9)	0.44 (11.2)	1.00 (25.4)	0.53 (13.5)	2.78 (70.5)
	1/4"	MT*MH-4N4T	2.12 (53.8)	0.98 (25.0)	1.13 (28.8)	0.98 (25.0)	1.48 (37.5)	0.34 (8.7)					
Fractional Hy-Lok tube fittings	1/8"	MT*H-2T	1.97 (49.2)		0.96 (24.6)		1.27 (32.5)	0.31 (7.9)					
	1/4"	MT*H-4T	2.27 (57.6)		1.13 (28.8)		1.48 (37.5)	0.34 (8.7)					
Metric Hy-Lok tube fittings	3mm	MT*H-3M	1.93 (49.2)		0.96 (24.6)		1.27 (32.5)	0.31 (7.9)					
	6mm	MT*H-6M	2.27 (57.6)		1.13 (28.8)		1.48 (37.5)	0.34 (8.7)					

Dimensions in inches (millimeters) are for reference only, subject to change.  
 Dimensions shown with Hy-Lok Nuts in finger-tight position, where applicable.  
 Orifice : 0.047 (1.20)

Ordering Information

**MT1**

Series Designator

- MT1

**MH**

End Connection Designator

- F : Female Pipe Thread
- M : Male Pipe Thread
- H : Hy-Lok Tube Fitting
- MF : Male Pipe Thread and Female Pipe Thread
- MH : Male Pipe Thread and Hy-Lok Tube Fitting

**A** †

Body Pattern Designator

- Nil : Straight Pattern (Standard)
- A : Angle Pattern

**4T**

Series Designator

**1D**

Stem Taper Designator

- 1D : 1° stem
- 3D : 3° stem

**V** †

Handle Designator

- Nil : Aluminum (standard)
- V : Vernier
- K : Phenolic Knob

**SOG** †

Sour Gas Service

- Nil : without (standard)
- SOG : NACE MR-01-75

**S316**

Body Material Designator

- S316 : 316 Stainless Steel
- BRAS : Brass

**CAUTION**  
 Excessive closing force of handle will damage valve seat.

Tube

Fractional Tube	O.D	1/8"	1/4"
	Designator	2T	4T
Metric Tube	O.D	3mm	6mm
	Designator	3M	6M

NPT (ISO / BSP)

Thread	1/8"	1/4"
Designator	2N(R)	4N(R)

**Note †** : No designator is required for standard e.g. MT1MH-2N2T-1D-S316

SAFETY in VALVE SELECTION

Proper installation, material compatibility, operation and maintenance of the valve is the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.