

# INSTRUMENT

## Metering Valves VMT



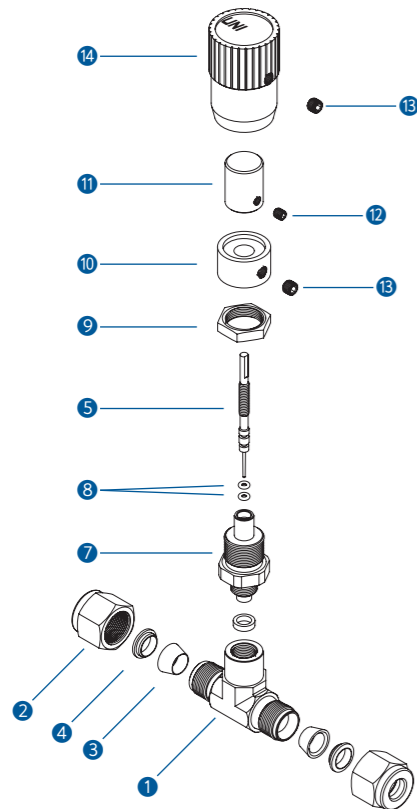
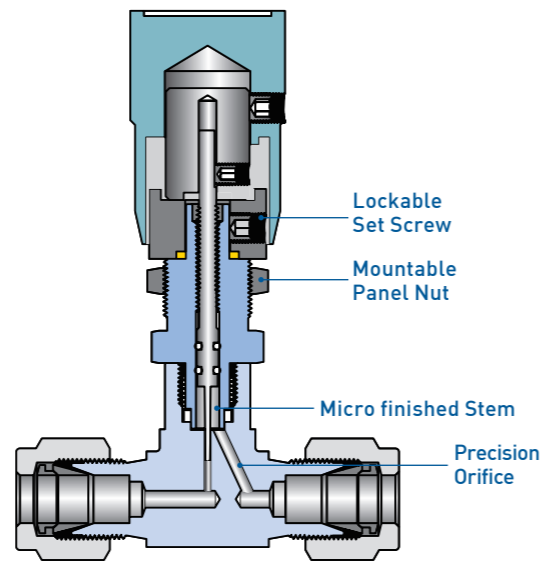
# Metering Valves VMT

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## Features

- Pressure rating up to  
VMTS series - 2000psig (137bar)  
VMTL & VMTM series - 1000psig (69bar)
- Temperature rating  
from -23°C(-10°F) to 204°C(400°F) with standard FKM o-ring  
from -23°C(-10°F) to 148°C(300°F) with Buna-N o-ring
- Compact designed body
- Panel mounting for easy installation
- Fine orifice and close thread tolerances offers accurate control
- Various selection of handles



## Materials of Construction

No.	Description	Materials
1	Body	316SS
2	Nut	316SS
3	Front Ferrule	316SS
4	Back Ferrule	316SS
5	Stem	316SS
6	Sealing Seal	PTFE
7	Bonnet	316SS
8	Stem Seal	FKM
9	Panel Nut	304SS
10	Vernier Scale	Aluminum
11	Handle Gland	Brass
12	Handle Gland Screw	304SS
13	Handle Set Screw	304SS
14	Handle	Aluminum

## Specification

Valve Series	Orifice (mm)	Stem Taper incl. Angle	Shutoff Service	Temperature Rating		Pressure Rating	
				°C	°F	psig	bar
VMTS	0.81	1°	No	-23~204	-10~400	2000	137
VMTM	1.42	3°	No			1000	69
VMTL	3.25	5°	Yes				

## Application

Sampling and analyzing systems, accurate and fine metering applications

## Cleaning

UNILOK valves are free from machine oils, loose particles and grease throughout the close cleaning process. The special cleaning for high purity application is available upon request.

## Testing

Every valve is 100% factory tested with air and nitrogen at 1000psig(69bar) for leakage at the seat and packing. Each test is performed to a maximum allowable leak rate of 0.1scc/min.

VMTL series is tested at 100psig(7bar) differential pressure.

## Important Notification

Proper installation, materials compatibility, operation and maintenance of these valves are the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.

## How To Order

UNILOK VMT series metering valves are ordered by part number as shown below.

**Example:** The following part number, *VMTSU-04T-SS-V* is designated for VMTS series metering valve with both 1/4"UNILOK tube fittings, 316SS, vernier handle.



Valve Type	
MTS	Stem Taper Angel - 1°
MTM	Stem Taper Angel - 3°
MTL	Stem Taper Angel - 5°

Connection Type	
U	UNILOK Tube Fitting
F	Female NPT or ISO7/1(PT)
M	Male NPT or ISO7/1(PT)
C	UCR-Metal Face Seal

Connection Size			
Fractional(Inch) Tube O.D. Designation			
Tube O.D.	inch	1/8	1/4
	mm	3.17	6.35
Designator		02T	04T

Metric Tube O.D. Designation			
Tube O.D.	mm	3	6
	Designator	M03T	M06T

Pipe Size Designation (NPT or ISO7/1-PT)		
Pipe Size	1/8	1/4
Designator	02N/R	04N/R

UCR Size Designation	
Tube Size	1/4
Designator	04M

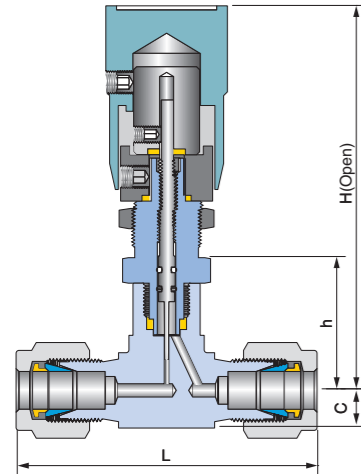
Handle Type	
V	Vernier Handle
R	Round Aluminum Handle
S	Slotted Handle

See the details in page 172.

Seal Materials	
None	FKM
N	Buna-N

## VMTS series

(Stem Angle 1°, Orifice 0.81mm)

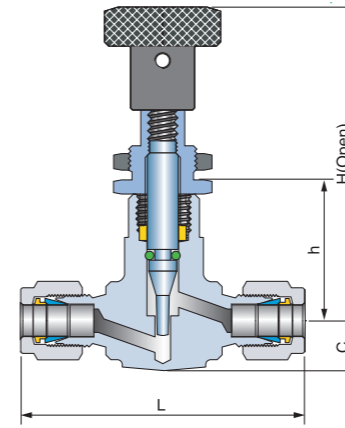


### Ordering Information & Dimensions

Part No.	End Connections		Orifice	CV (Max)	Dimensions (mm)				Panel Hole Drill Size
	Inlet	Outlet			L	C	h	H (Open)	
U-02T-	1/8" UNILOK		0.81	0.005	48.3	6.8	23.4	69.1	11.5
U-04T-	1/4" UNILOK				51.8				
U-M03T-	3mm UNILOK				48.3				
U-M06T-	6mm UNILOK				51.8				
C-04M	1/4" Male UCR				52.3				

## VMTL series

(Stem Angle 5°, Orifice 3.25mm)

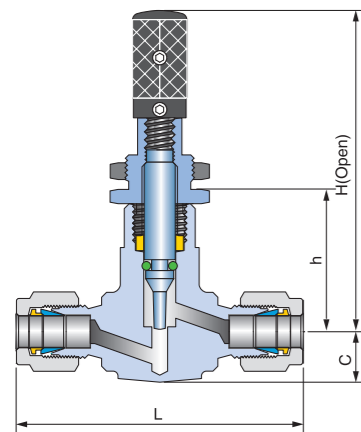


### Ordering Information & Dimensions

Part No.	End Connections		Orifice	CV (Max)	Dimensions (mm)				Panel Hole Drill Size
	Inlet	Outlet			L	C	h	H (Open)	
U-04T-	1/4" UNILOK		3.25	0.155	58.3	9.7	28.9	67.0	15.0
U-06T-	3/8" UNILOK				58.6				
U-M06T-	6mm UNILOK				58.3				
M-04N-	1/4" Male NPT				50.0				

## VMTM series

(Stem Angle 3°, Orifice 1.42mm)



### Ordering Information & Dimensions

Part No.	End Connections		Orifice	CV (Max)	Dimensions (mm)				Panel Hole Drill Size
	Inlet	Outlet			L	C	h	H (Open)	
U-02T-	1/8" UNILOK		1.42	0.033	52.3	9.7	39.6	70.6	15.0
U-04T-	1/4" UNILOK				58.3				
U-M03T-	3mm UNILOK				52.3				
U-M06T-	6mm UNILOK				58.3				
F-02N-	1/8" Female NPT				42.0				
M-02N-	1/8" Male NPT				41.2				
M-04N-	1/4" Male NPT				50.0				

ISO7/1 Tapered Threads (PT) are available for all fractional sizes of VMT series valves.  
Add "R" as a suffix instead of "N".

Dimensions are for reference only and are subject to change without prior notice.

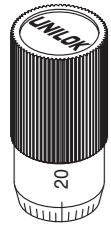
Dimensions are for reference only and are subject to change without prior notice.

## Handle Types

Handle materials

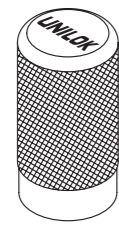
Vernier and Slotted handles - Aluminum with anodized color

Round handles - Aluminum



**Vernier Handle**

Enhance accurate flow adjustments



**Slotted Handle**

Keep flow setting adjustments with set screw



**Round Handle**

Make flow adjustments easily

## Handle Options

Different types of aluminum handles are available depending on valve series.

Vavle Series	Handle Types		
	Vernier	Slotted	Round
VMTS	0	0	X
VMTM	0	0	X
VMTL	0	X	0

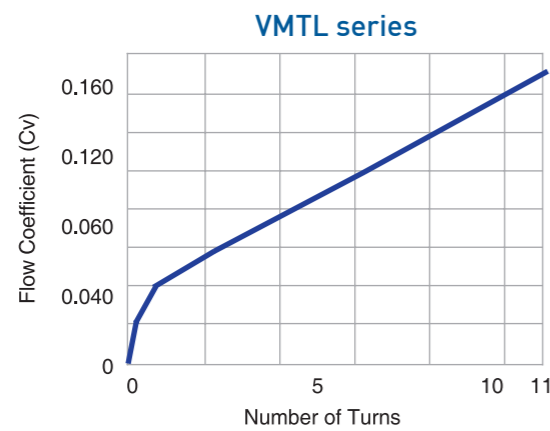
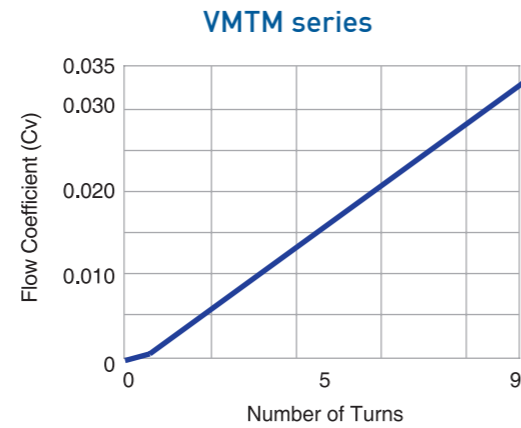
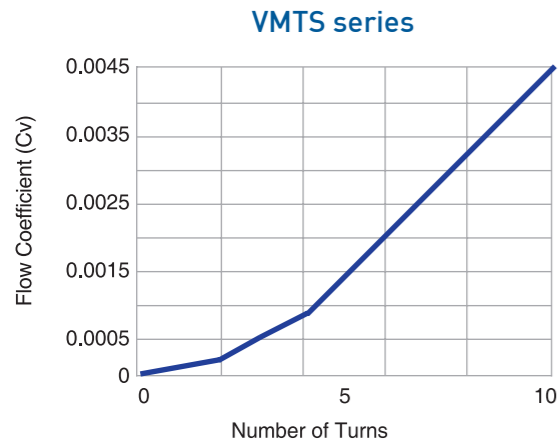
Standard color for all handles is black. Other colored are available upon request as option only with vernier and slotted handles.

To order, add color designator to the end of handle option.

**Example** : -VG shown as gold vernier handle

Color	Designator
Gold	G
Silver	S

## Number of Handle Turns - Flow Coefficient (Cv)



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