



# MODEL VM

## CONFIGURATION SHEET MAIN LINE FLOWMETER

### DESCRIPTION

The VM V-Cone System's innovative design delivers repeatable accuracy of  $\pm 0.5\%$  of rate over a 10:1 flow range under the most difficult flow conditions. The VM V-Cone System™ acts as its own flow conditioner, fully conditioning and mixing the flow prior to measurement. Readings are always precise and reliable, even under changing flow situations.

With this unique ability to self-condition flow, the VM V-Cone System virtually eliminates the need for upstream or downstream straight pipe runs. Thus, the VM V-Cone System can be installed virtually anywhere in a piping system or easily retrofit into an existing piping layout, resulting in significant installation flexibility and cost savings. In addition, the VM V-Cone System has proven to provide long-term performance with no moving parts to replace or maintain.

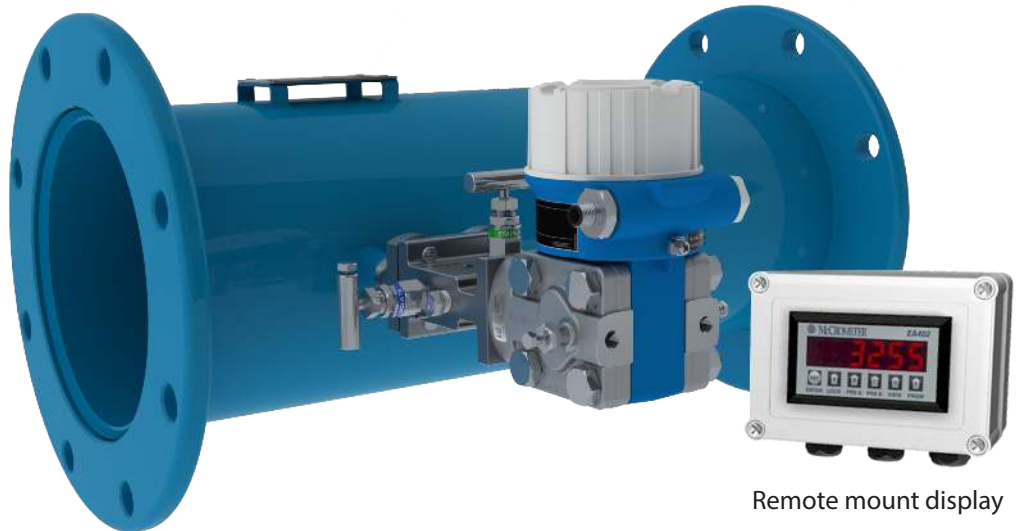
### BENEFITS AND FEATURES

- Plug and play design
- Installs virtually anywhere in the system - even in tight spaces
- Displays both rate of flow and total flow. Rate and total functions are independent of each other allowing for many different combinations of flow units.
- Local rate and total display on meter head
- Remote display available for panel mounting
- Accuracy of  $\pm 0.5\%$  of rate
- Flow range: 10:1
- Installation: typically 0-3 diameters upstream and 0-1 diameter downstream
- Totalizer pulse and linear 4-20 mA dc outputs
- No parts to wear so little maintenance required
- HART™ Interface
- 3-way manifold for isolating the transmitter
- Modbus, Profibus, Fieldbus available
- Offering local and remote mounted displays gives maximum flexibility.

### APPLICATIONS

Typical applications include:

- Water Well Production
- Cooling Water
- Raw Water Influent
- Reclaimed Water
- Finished Water Effluent
- Filter and Pipe Galleries
- Back Wash
- Distribution and Billing





# CONFIGURATION SHEET MAIN LINE FLOWMETER

## MODEL VM

### SPACE SAVER VM MODELS WITH 150psi AND 300psi PRESSURE RATING

#### PERFORMANCE

**ACCURACY:** ±0.5% of reading over standard flowrange.

**RANGE:** See dimensions chart below

**HEAD LOSS:** Typical ≤2 psi at Full Scale

**MAXIMUM TEMPERATURE:** (Standard Construction) 180°F constant

**PRESSURE RATING:** 150 psi  
300 psi

**POWER:** 24VDC, Remote Display 110 VAC

**OUTPUTS:** Analog 4-20mA

**OPTICALLY ISOLATED PULSE OUTPUT** For Remote Totalization

**TRANSMITTER HOUSING:** IP67

**DISPLAY ENCLOSURE:** NEMA 4X (IP66)

#### MATERIALS

Remote mount display includes 25 feet of power/signal cable. For additional length, please consult factory.

**BODY:** 6-inch & larger: Fusion-bonded epoxy coated carbon steel  
4-inch & smaller: All 304 stainless steel

**MEASURING ELEMENT:** 304 stainless steel

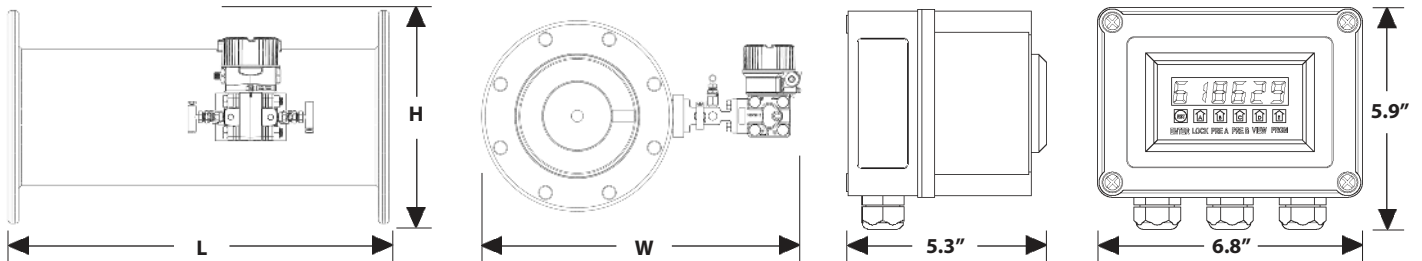
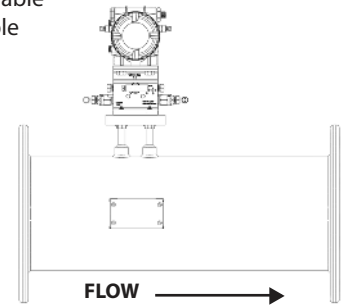
#### END CONNECTIONS

**150#:** 6-inch & larger: Carbon Steel AWWA Class D;  
4-inch & smaller: Raised Face ANSI Class 150

**300#:** 6-inch and larger: Carbon Steel AWWA Class F;  
4-inch & smaller: Raised Face ANSI Class 300

#### OPTIONS

- Other flange standards available
- Other laying lengths available



McCrometer reserves the right to change design specifications without notice.

Remote Display w/ Enclosure

#### Flow Range Chart

Size (in)	2	3	4	6	8	10	12	14	16	18	20	24
Applicable Standard Flow Ranges * (GPM)	10-230	20-500	40-900	80-1800	100-2250	120-2700	160-3750	200-4500	270-6000	300-7500	350-9000	560-14000
<b>150#</b>						<b>150#</b>						
Approx. Shipping Weight - lbs.	24	39	54	115	135	197	325	465	530	744	920	1254
W (width - inches)	15	16.5	17.75	20	22	24.5	27	28.5	30.75	32.5	34.75	39
H (height - inches)	14	15	13	14	15.4	16.6	19	21	23.5	25	27.5	32
L (length - inches)	12	14	16	22	26	28	30	30	30	32	36	48
No. of Bolts per Flange	4	4	8	8	8	12	12	12	16	16	20	20
<b>300#</b>						<b>300#</b>						
Approx. Shipping Weight - lbs.	29	44	90	145	220	340	430	650	820	1315	1517	1917
W (width - inches)	15.5	17	18.25	21	23	25.25	27.75	29.5	31.75	34	36.25	41
H (height - Inches)	15	16	13.8	15	16.3	17.5	20.5	23	25.5	28	30.5	36
L (length - inches)	12	14	16	22	26	28	30	30	30	32	36	48
No. of Bolts per Flange	8	8	8	12	12	16	16	20	20	24	24	24

\* Meter will be 10:1 flow range standard (i.e. 400 to 40 GPM)

**NOTE:** Larger meter sizes, special laying lengths, other flow ranges available by special order.

#### ORDERING INFORMATION:

1. Select Nominal Pipe Size and include Maximum Flow Rate.
2. Specify units of measurement for both the flow rate indicator and totalizer.
3. For vertical installation, specify upflow or downflow.



3255 WEST STETSON AVENUE • HEMET, CALIFORNIA 92545 USA

TEL: 951-652-6811 • 800-220-2279 • FAX: 951-652-3078

Printed In The U.S.A.

Lit. # 30121-50, Rev. 1.1 / 5/17/17

Copyright © 2014 McCrometer, Inc. All printed material should not be changed or altered without permission of McCrometer. Any published technical data and instructions are subject to change without notice. Contact your McCrometer representative for current technical data and instructions.



# MODEL VM

# CONFIGURATION SHEET MAIN LINE FLOWMETER

Muni Designation	Line Size	Materials		Schedule		Flange & Class		Process Connection (Standard Options)	
		Code	Description	Code	Description	Code	Description	Code	Description
VM	02	S	(Carbon Steel Body, Epoxy Coated Blue, S304 Cone, 6" and up)	E	S40	34	AWWA D	F	Direct Mount
	04								
	06								
	08	Q	(All S304/L)	D	STD	36	AWWA F	N	1/2" 3000# NPT Cplg for Remote Mount
	10								
	12	R	S30	03	ANSI 150#	04	ANSI 300#	W	For Vertical down flow only, remote mount required
	14								
	16								
	18								
	20								
	24								

### Transmitter

-	Make		LCD for Local Rate and Total		Output Type		DP Range		-	Manifold		Special Length	
	Code	Description	Code	Description	Code	Description	Code	Description		Code	Description	Code	Description
	E	Standard Transmitter	1	with LCD - Local Display	H	HART	S	Standard DP Range		V3	3-Valve Manifold	L	Long
	R	Rosemount Option *	0	without LCD - with Remote Display	F	Fieldbus	L	Low Draft DP Range		V5	5-Valve Manifold	S	Short
	F	Foxboro Option *			A	W/O LCD - with Remote Display and Display NEMA 4X Enclosure	M	Modbus					
					P	Profibus							

\* Output rate only.

LCD for Local Rate & Total Code O.

System will be supplied with a remote display.

Specialized number indicating this model has a special length.

Example	Description
VM04QE03F-E1HS-V3	4" VM System V-Cone, 150# Rated, Standard Transmitter, HART Output, 3-Valve Manifold, Local Display
VM12SD34F-E0HS-V3	12" VM System V-Cone, 150# Rated, Standard Transmitter, HART Output, 3-Valve Manifold, Remote Display
VM12SD36F-R0ML-V3	12" VM System V-Cone, 300# Rated, Rosemount Transmitter, Modbus Output, 3-Valve Manifold, Remote Display. Designed for Low Headloss