

TRACER[®] VM FLOWMETER

General Description

The Tracer_{VM} Flowmeter is a non-display sensor that provides a 0.5 to 3.5 Volt output for process flow rate and a 0.5 to 4.1 Volt output for process temperature.

Flow sensor technology is highly accurate and repeatable vortex shedding behind a bluff body. Flow reading is direction specific. Refer to the arrow on the body for correct installation.

Connection to the process is made using standard pipe threads in NPT or BSP from 3/8" through 1-1/2". Flow body materials are corrosion-resistant brass, nylon, anodized aluminum and stainless steel. Options are based on thread size, see page 2 for details.

The flowmeter is designed for use in industrial water applications such as injection mold cooling or filter and pump monitoring.

Benefits

- No moving parts for reliable operation
- Flow and Temperature Sensors in one unit for compact installation
- Quick temperature response from direct media contact
- Economical and versatile construction with corrosion-resistant materials

Specifications

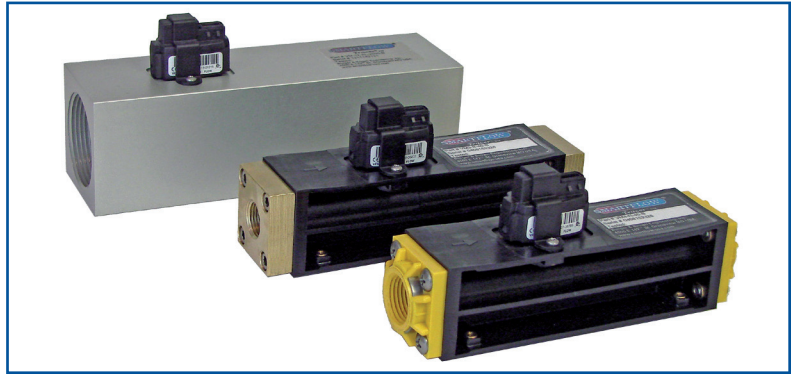
Flow Ranges and Connection Sizes

1 to 15 LPM	(.3 to 4 GPM)	3/8" or 1/2"
2 to 40 LPM	(.5 to 10.6 GPM)	3/8" or 1/2"
5 to 100 LPM	(1.3 to 26.4 GPM)	3/4" or 1"
10 to 200 LPM	(2.6 to 52.8 GPM)	1" or 1-1/2"

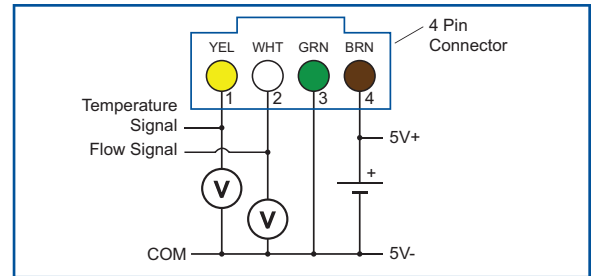
Flow Accuracy±1.5% of Full Scale
 Temperature Range..... 0°C to 100°C (32°F to 212°F)
 High Temperature Models 0°C to 120°C (32°F to 248°F)
 Temperature Accuracy±0.5°C
 Operating Pressure 10.3 bar max. (150 psi max.)

Power

Power Supply 5VDC ±5% (external)
 Output Signals..... Ratiometric
 Flow Signal0.5 - 3.5V (zero at .35V)
 Temperature Signal 0.5 - 4.1V
 Power Consumption<50mW
 Load Impedance..... >10kΩ



Electrical Connections



Pin	Description	Color
1	Temperature Signal*	Yellow
2	Flow Signal*	White
3	Common (0V)	Green
4	Power Supply (+5VDC)	Brown

*relative to Pin 3

Materials

Sensing Element.. Silicone-Based MEMS Sensor
 Seal (sensor to housing) EPDM
 Insert PPA 40 GF
 3/8" & 1/2" Body Size..... Glass-Filled Nylon Flow Body with Brass or Nylon End Caps
 3/4" thru 1-1/2" Body Size Anodized Aluminum or Stainless Steel Flow Body
 Cable 2.9M (9.5ft) 4-conductor for power and output, ends stripped

Power Supply Requirements

- 5VDC
- Separated from hazardous live circuitry by double or reinforced insulation
- Suggested current limit: 50-100mA

Tracer[®] VM Electronic Flowmeters with Analog Voltage Output

Model Number

VM 3 - B - 15 - B - P1Q

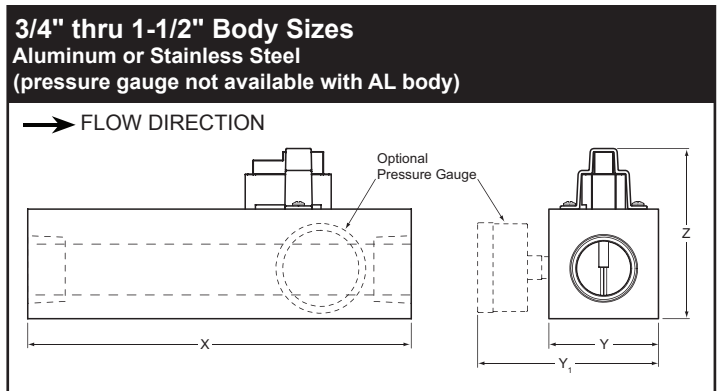
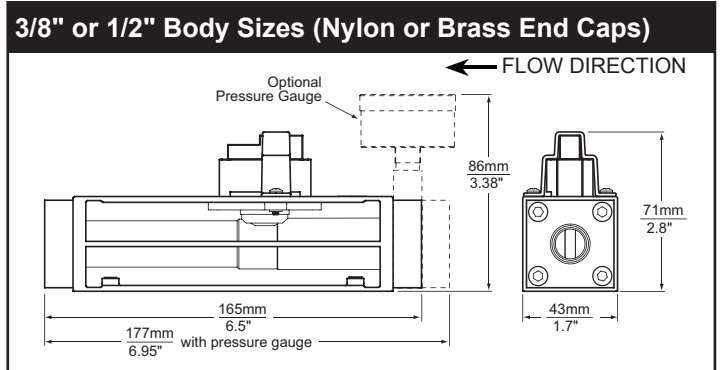
Body Size			
3/8"NPT	3	B or N	15 or 15H 40 or 40H
3/8"BSPP	3B		
1/2"NPT	4		
1/2"BSPP	4B		
3/4"NPT	6	AL or SS	100 or 100H
3/4"BSPP	6B		
1"NPT	8	AL or SS	100 or 100H 200 or 200H
1"BSPP	8B		
1-1/2"NPT	12	AL or SS	200 or 200H
1-1/2"BSPP	12B		

Body Material	
Glass-Filled Nylon with Brass End Caps Nylon End Caps (3/8" and 1/2" only)	B N
Anodized Aluminum Body Stainless Steel Body (3/4" and larger only)	AL SS

Flow Range	
1 to 15 LPM (.3 to 4 GPM)	15
High Temp 120°C max	15H
2 to 40 LPM (.5 to 10.6 GPM)	40
High Temp 120°C max	40H
5 to 100 LPM (1.3 to 26.4 GPM)	100
High Temp 120°C max	100H
10 to 200 LPM (2.6 to 52.8 GPM)	200
High Temp 120°C max	200H

100°C upper temperature limit unless noted

Options	
P1	30 psi Pressure Gauge
P2	60 psi Pressure Gauge
P3	100 psi Pressure Gauge
P4	160 psi Pressure Gauge (Pressure gauges not available with AL body material)
Q	Delta-Q® Precision Flow Regulator (use with VM3 or VM4 only)



Dimensions (mm/inches)

Body Size	X	Y	Y ₁	Z
3/4", 5 to 100 LPM	178/7.0	45.7/1.8	77/3.1	74/2.9
1", 5 to 100 LPM	178/7.0	45.7/1.8	77/3.1	74/2.9
1", 10 to 200 LPM	178/7.0	51/2.0	84/3.3	79/3.1
1-1/2", 10 to 200 LPM	198/7.8	58/2.3	90/3.6	86/3.4



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Directives
Flow sensors are in conformity with these Council directives on the approximation of the laws of the EC member states:

- Low Voltage Directive (2006/95/ED)
Standards used: EN 61010-1:2001
- EMC Directive (2004/108/EC)
Standards used: EN 61326-1:2006 and 61326-2-3:2006

Smartflow flow sensors fall under Article 3, 3 of PED Directive 97/23/EEC and are not required to be CE-marked according to this directive.