

QEM Series

OEM Ultrasonic Flow Meter

Description

The QEM Series in line ultrasonic flow meter has been specifically designed for applications that require excellent accuracy & reliability at an OEM price point. The compact QEM Series has no moving parts; this results in a very rugged, reliable and accurate flow meter. The small footprint, lightweight device is ideal for low viscosity liquid applications including water based products, oils, and its plastic and stainless steel construction makes it the meter of choice for many corrosive fluids.

The QEM Series flow meter bases its operation on measuring the time difference of an ultrasonic wave traveling with and against the flowing medium. The time difference is directly proportional to the fluid's flow rate.

Features

- High accuracy
- Outstanding repeatability
- No moving parts
- Compact & lightweight design
- Low pressure drop
- Plastic and stainless steel construction
- Analog / frequency / Modbus outputs
- UltraLinK configuration tool



Specifications

Accuracy	
Calibrated	±0.25% of reading plus zero stability ¹
Uncalibrated ²	±2% of reading ³
Zero Stability	±0.02% FS
Repeatability	±0.10% over 20:1 turndown
Turndown	200:1
Nominal Line Sizes	3/4", 1", 1-1/4"
Materials of Construction	
Meter Body	PPA GF40 Polyphthalamide
Temperature Range	-10°C to 80°C (14°F to 176°F)
Max Pressure	275 psi (19 bar)
End connection	BSPP
Enclosure Rating	IP55
Power	9 to 32 VDC
Outputs	
Analog ⁴	4 (0) to 20mA
Scaled frequency	1 to 100K Hz
Communications	Modbus RTU over EIA485
Baud Rate	115200, 57600, 38400, 19200, 9600 bps

1. Calibrated conditions are defined as water at ~25°C. Standard calibrated range is 20:1.
2. Calibration sold separately. Standard meter uncalibrated.
3. Typical, over 10:1 range with single point inline adjustment.
4. The analog output requires a galvanically isolated input channel.



Ordering Information

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Size	Code	Max Flow (gpm)
3/4"	075	30
1"	100	45
1-1/4"	125	65

Calibration

- 90-103161-101 5 point calibration, linearization curve programmed, 3 point verification
- 90-103161-102 15 point calibration, linearization curve programmed, 5 point verification

*Base unit shipped without calibration. Must order separately.

*Uncalibrated accuracy $\pm 2\%$ of reading, typical, over 10:1 range with single point inline adjustment.

Wiring

Pin #	Function	Wire Color
1	Current Output (-)	Yellow
2	Power (9-32VDC)	Red
3	Factory Use	Green
4	EIA-485 A	Blue
5	EIA-485 B	White
6	Frequency Output	Orange
7	Current Output (+)	Brown
8	Power Return	Black

Pressure Drop

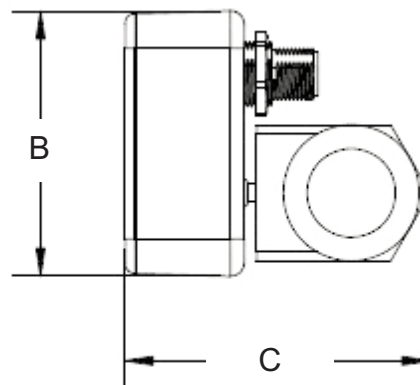
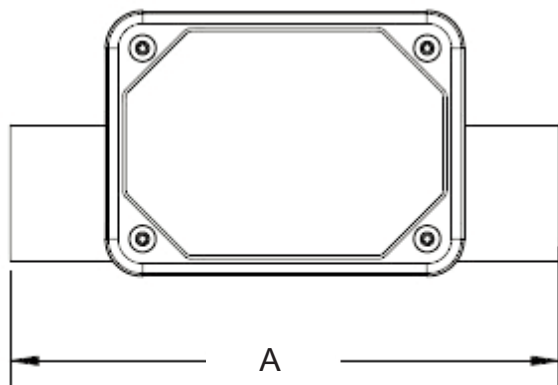
Line Size	Pressure Drop (psi)
3/4"	<5.8 psi at 11 gpm
1"	<5.8 psi at 17 gpm
1-1/4"	<9.1 psi at 27 gpm

Cable

19-102374-101 Connector to flying leads cable, 5 meters

Dimensions

Line Size	Dim A (in)	Dim B (in)	Dim C (in)	Weight (g)
3/4"	4-3/8"	2-1/2"	2-3/4"	185
1"	5-1/8"	2-1/2"	2-7/8"	219
1-1/4"	5-15/16"	2-1/2"	3"	285



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