Specification Sheet

MagMaster™

Electromagnetic Flow Meter

Sizes: 2” - 12”

Description

Available in sizes 2" through 12", MagMaster sets the standard for accuracy, reliability and low cost of ownership. The combination of an ultra-linear magnetic sensor, displays featuring industry standard outputs and a next generation sensor drive and signal processing system results in unrivalled flow performance. Accuracy is ±0.15% over the normal operating flow rates. The rugged construction of the sensor ensures continued optimal performance without maintenance even in submerged or buried applications. The sensor and transmitter are available with FM / CSA approved construction for non-hazardous locations.

Additional MagMaster features include:

- Integral 4-20 mA rate of flow output
- Bi directional flow monitoring - total and rate
- Integral grounding electrodes
- Fully configurable choice of engineering units for rate of flow and total
- Self-diagnostics and comprehensive test mode
- Interchangeable transmitter and sensor

Application. The meter is suitable for use in applications with potable cold water, grey water, waste water, batching processes requiring very high accuracy, plant maintenance applications and water containing debris including ground, well, river, or irrigation water.

Operation. The MagMaster is an electromagnetic water meter operating on Faraday's principle of induction. A conductive fluid, water, moving through a magnetic field generated in the flow tube will induce a current proportional to the rate of flow of the fluid. The meter measures the induced current between the stainless steel electrodes and calculates the flow rate of the fluid. Total volume is inferred from the known cross section of the flow tube.

Compliance to Standards. MagMaster is designed, manufactured, and calibrated to internationally recognized standards: ISO 9001, NAMAS, NIST, NATA, FM and CSA.

Specifications

Sizes		Flow Range (±0.15%)			
in	mm	Minimum		Maximum*	
		USG/min	m^3/h	USG/min	m^3/h
2	50	.23	0.053	311	71
3	80	.59	0.136	796	181
4	100	.94	0.212	1243	283
6	150	2.100	.477	2797	640
8	200	3.730	.848	4974	1130
10	250	5.831	.32	7771	1770
12	300	8.391	.91	11190	2540

* Based on 33 ft/s (10 m/s), but instrument capability in excess of 50 ft/s (15 m/s)

Materials of Construction

Item	Material
Lining	Elastomer (EPDM)
Electrodes	Stainless Steel 316 or Hastelloy ‘C’
Flanges	Carbon Steel

Power Consumption
<20 VA

Conductivity
≥5µ S/cm

Pressure Limitations
150 PSI

Transmitter/Sensor Separation
Less than 328 ft (100 m)

Environmental Protection (when installed)

Rating	IP68/NEMA 6P (to 33 ft (10 m) depth)
Buriable Sensor	To 16 ft (5 m) depth

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Installation. The meter may be installed in any orientation provided a full pipe of water remains in the meter at all times. Five straight pipe diameters in front of the meter and two behind will ensure a fully developed turbulence profile that maintains the meter's accuracy to published standards.

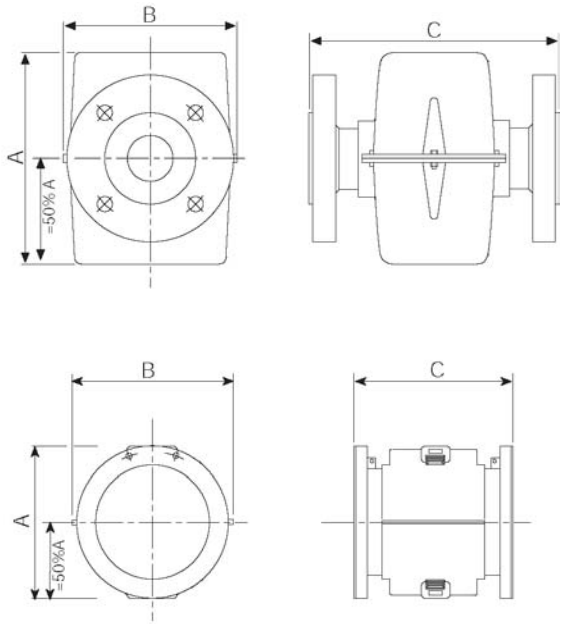
Sizes (nominal dimensions)

2" to 6" (50 to 150 mm)

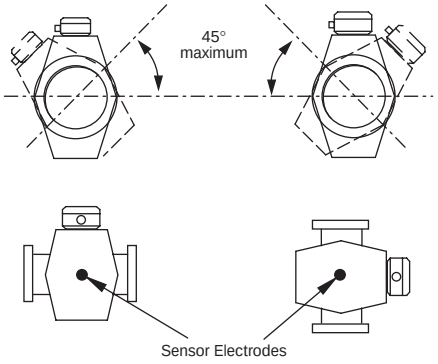
Meter size	Dimensions inches (mm)			Approx. Weight	
inches (mm)	A	B	C	lb	kg
2 (50)	8.3 (210)	7 (176)	7.9 (200)	23	10
3 (80)	11.0 (280)	8.6 (219)	7.9 (200)	40	18
4 (100)	12.3 (312)	9.1 (230.5)	9.8 (250)	54	24
6 (150)	14.6 (370)	11.8 (281)	11.8 (300)	84	38

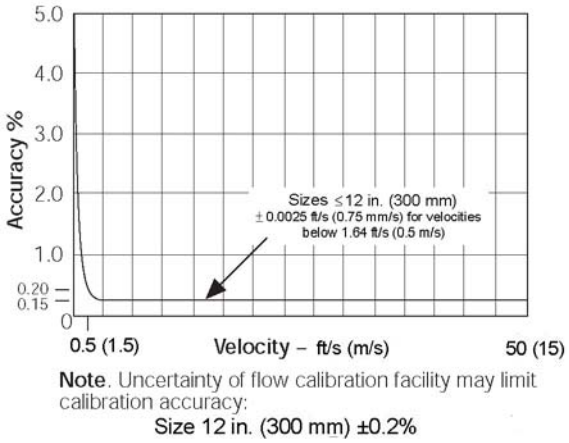
8" to 12" (200 to 300 mm)

Meter size	Dimensions inches (mm)			Approx. Weight	
inches (mm)	A	B	C	lb	kg
8 (200)	15.6 (396)	15.8 (402)	13.8 (350)	81	37
10 (250)	16.9 (430)	17.3 (440)	17.7 (450)	132	60
12 (300)	18.1 (461)	18.9 (480)	19.7 (500)	154	70



Mounting



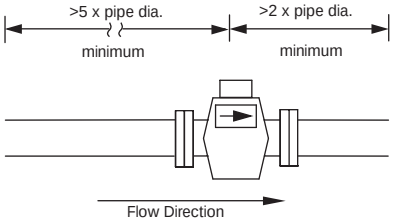


Note. Uncertainty of flow calibration facility may limit calibration accuracy:
Size 12 in. (300 mm) ±0.2%

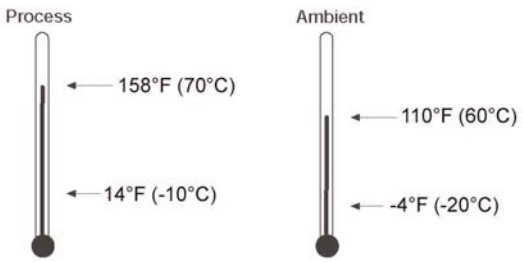
End Mating Connections

6 bar metric ANSI B16-5 Class 150

Pipe Conditions

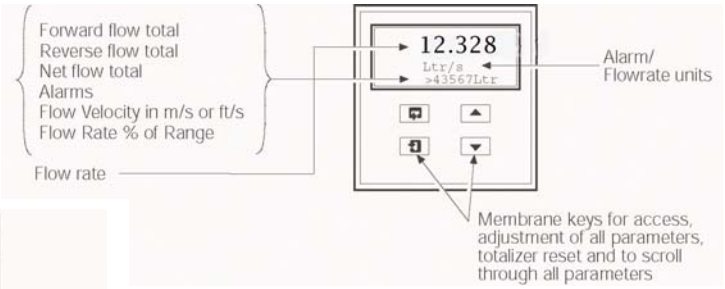


Temperature Range



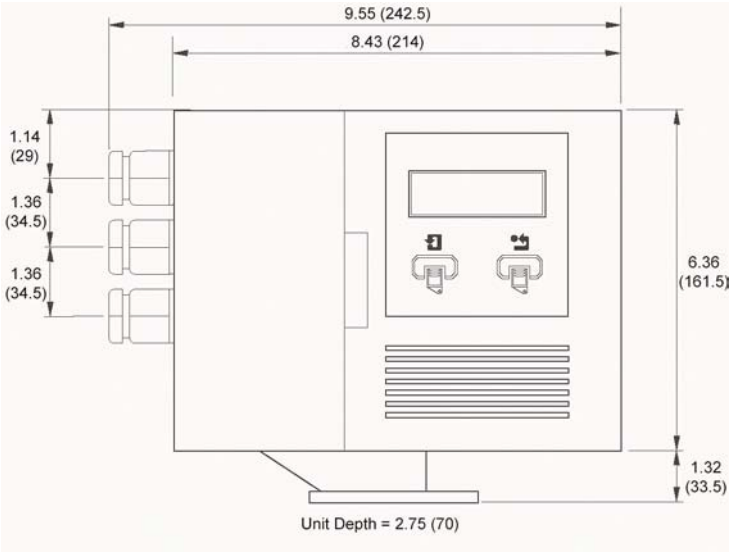
Analog Output	Additional < ±0.008 mA
Temperature Effect	
Transmitter	<±0.08% of reading/50°F (10°C) Analog output - Additional <±0.08% of reading/50°F (10°C)
Sensor	<±0.03% of rate/50°F (10°C)
Power Supply Variation	Negligible
Pressure Effect	<0.15% over the operating range of the equipment

Display/Transmitter



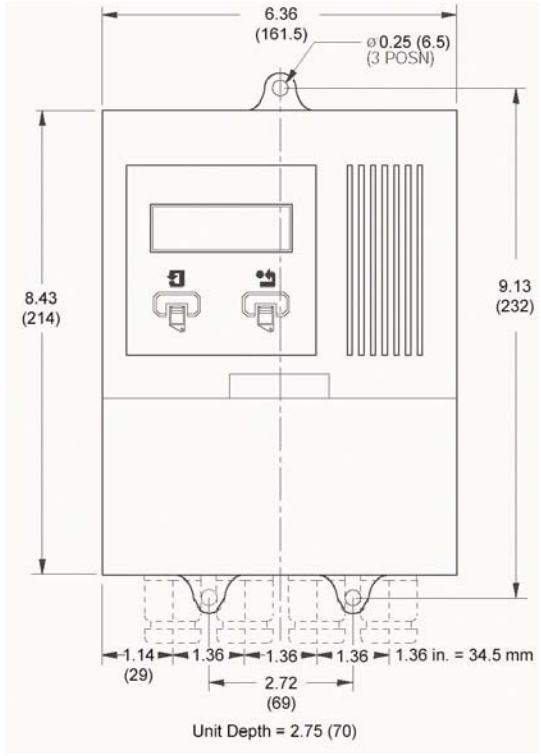
Integral Transmitter (mounted on sensor)

Dimensions inches (mm)



Remote Mounting Transmitter

Dimensions inches (mm)



Environmental Protection

IP65/NEMA 4X

EMC Specification

Conforms to EMC Directive 89/336/EEC to 10 V/m

Enclosure

Glass loaded polypropylene, polycarbonate window
ULVO rated

Electrical Connections

0.79 in (20 mm) glands or accepts
1/2 in. NPT connections

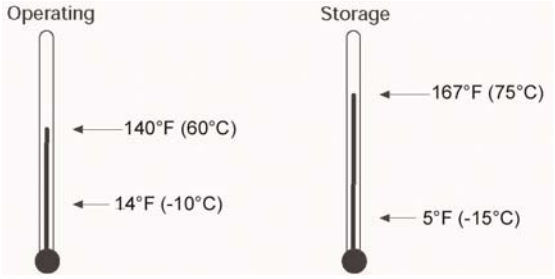
Sensor Cable

AMCO supplied standard and armored versions

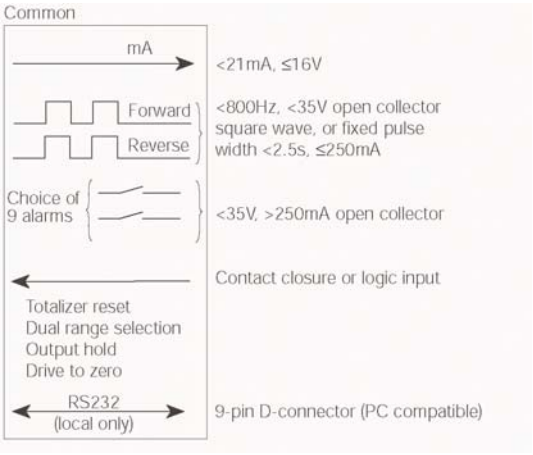
Power Supply

Voltage Type	Voltage Range (V) Absolute rating	Frequency (Hz)	VA
AC	85 to 265	47 to 440	<20

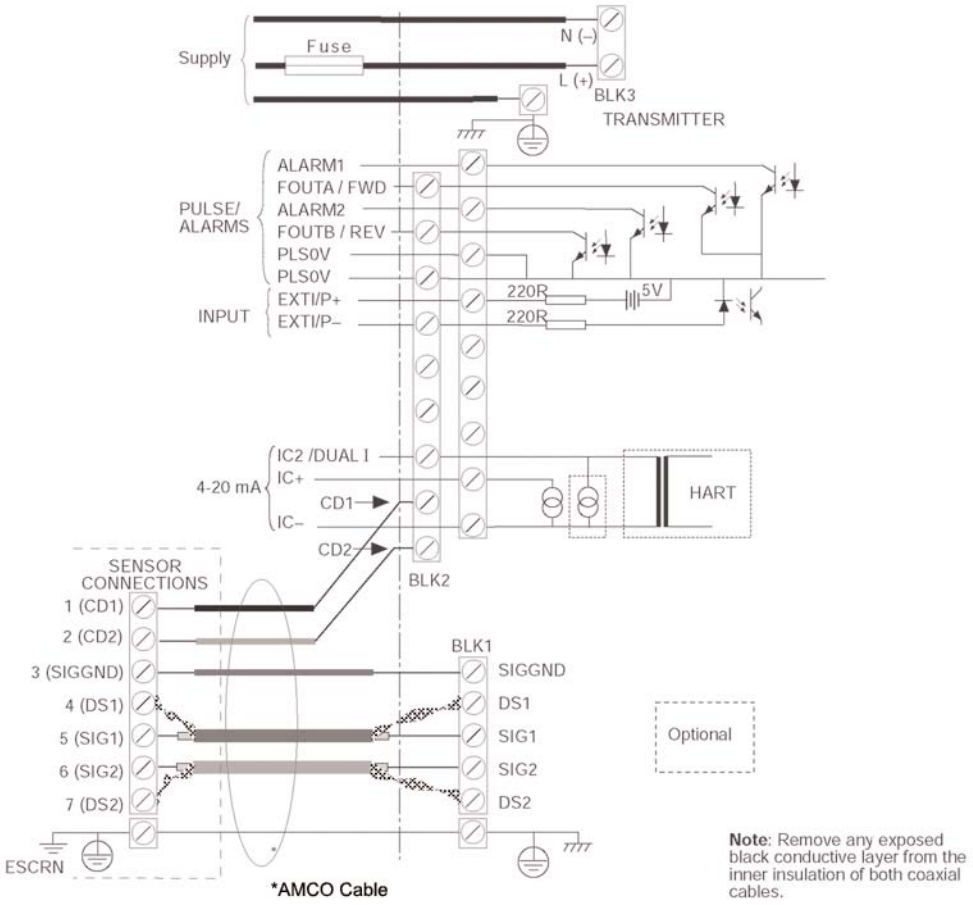
Temperature Ranges



Outputs/Inputs



Electrical Connections



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The company's policy is one of continuous product improvement and the right is reserved to modify the specifications contained herein without notice. These products have been manufactured with current technology and in accordance with applicable AWWA Standards.

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