

# FLANGED MAGMETER

## FMG-2000 Series



- ✓ Easy Setup
- ✓ Minimal Straight Pipe
- ✓ Mounted or Remote Rate and Total
- ✓ Tamper-Evident Seal
- ✓ IP68 Rated
- ✓ Touch Screen Programming
- ✓ 200:1 Turndown
- ✓ RS485 (Modbus® Protocol)



FMG-2004 shown smaller than actual size.



FMG-2000 Series top view.

The FMG-2000 Series is the most economical flanged electromagnetic flow meter on the market. It is used in 3 to 10" pipe in municipal or industrial water, wastewater, pump stations and packaged plant applications.

The FMG-2000 has no moving parts and electrodes are designed to discourage fouling. This magmeter requires no maintenance in applications where debris would impede mechanical meters. There are no parts to wear out. Minimal straight pipe requirements allow FMG-2000 Series meters to be used in piping configurations where there is little space between the meter and an elbow. FMG-2000 Series meters are

rated IP68 for applications where the meter may be under water up to a depth of 3 m (10') for prolonged periods of time. Rate and total indication are standard. Rate and total units and pulse output are settable via the front panel touch key pad by the user.

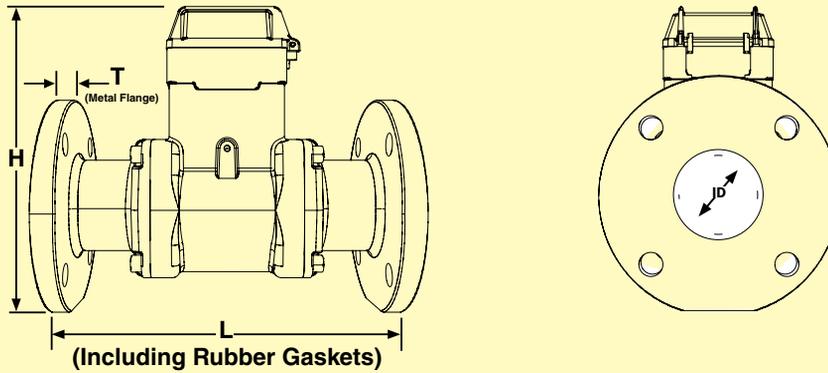
The FMG-2000 can be externally powered with 9 to 36 Vdc at 30 mA. The standard 6 m (20') cable also provides outputs for use with a variety of TRODEX® displays and controls for remote reading, data logging and control applications. 4 to 20 mA passive current loop (-I) and high frequency outputs are optional. The FMG-2100 remote display meter can be supplied with an optional internal AC power supply (-120 Vac).

**Dimensions**

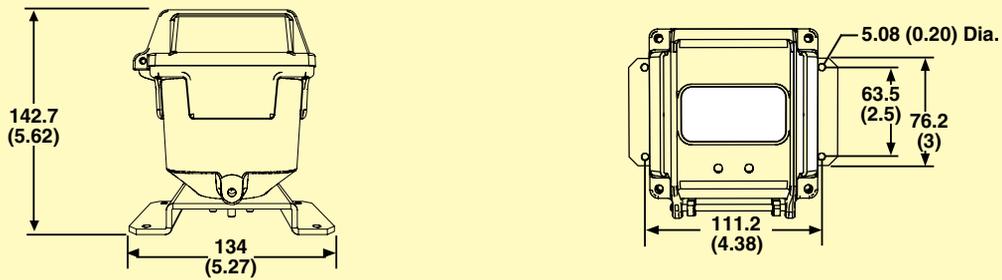
Meter Size inch	L mm (inch)	H mm (inch)	T mm (inch)	ID mm (inch)	Shipping Weight kg (lb)
3	305 (12)	173 (6.80)	17.3 (0.68)	66.04 (2.60)	19 (41)
4	260 (10.24)	206 (8.12)	20.9 (0.62)	79.25 (3.12)	16 (35)
6	312 (12.27)	234 (9.22)	23.3 (0.69)	128.27 (5.05)	23 (50)
8	362 (14.24)	260 (10.22)	23.3 (0.69)	163.58 (6.44)	33 (72)
10	462 (18.18)	285 (11.22)	23.3 (0.69)	218.69 (8.61)	58 (128)
<b>Flanges:</b> Standard ANSI 150 lb drilling pattern					Cable 1 lb.

Dimensions: mm (inch)

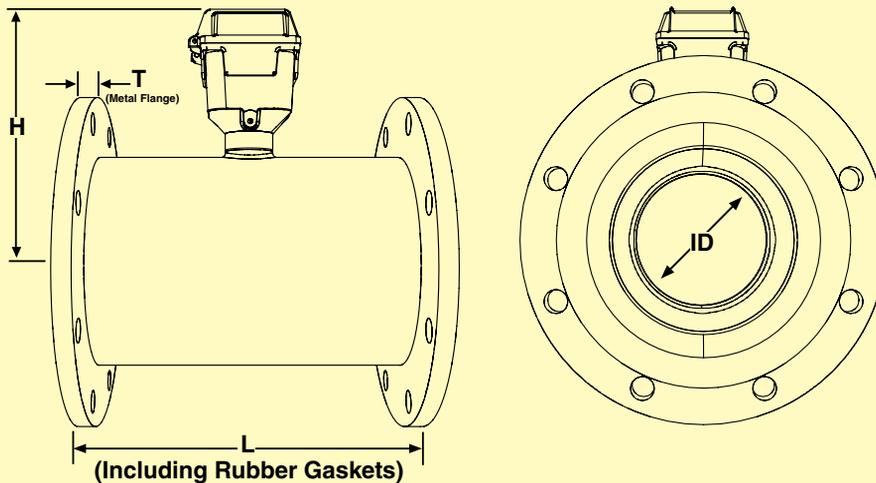
**FMG-2003 shown**



**Remote Version Shown**



**FMG-2004 to 2010 shown**



## SPECIFICATIONS

**Pipe Sizes:** 3, 4, 6, 8, and 10"

**Flanges:** 150 lb. ANSI pattern

**Pressure:** 150 psi (10.3 bar) working pressure

### Temperature

**Operating:** -12 to 54°C (10 to 130°F)

**Storage:** -40 to 70°C (-40 to 158°F)

**Accuracy:** ±1% of reading ±0.04% of full-scale flow from low flow cutoff to maximum flow rate of 10 m/sec

**Low Flow Cutoff:** 0.5% of maximum flow rate

**Maximum Velocity:** 10m/s

## Materials

**Body:** 3" only ductile cast iron, powder-coated with epoxy powder

4 to 10" welded steel, epoxy-coated

**Liner:** 3" only Noryl® 4 to 10" Santoprene/Polypropylene electronics

**Housing:** Ductile cast iron, powder-coated

**Electrodes:** 316 stainless steel

**O-ring:** 3" only EPDM

**Display Type:** 128 x 64 dot-matrix LCD

**Digits:** 5 digit rate, 8 digit total

### Power:

**DC power:** 9 to 36 Vdc at 250 mA maximum, 30 mA average

**AC Power:** Option 85 to 264 Vac, 50/60Hz, 0.12 A

## Pulse Frequency Output Signal:

Current sinking pulse, isolated, 36 Vdc at 10 mA maximum

**Pulse Rates:** User-settable volume units/pulse. Pulse width is one-half of pulse period, 200 pulses/sec maximum

### Options:

#### 4 to 20 mA Current Loop (-I):

Isolated, passive, 6 to 36 Vdc, ±0.1% of pulse/frequency output HART® compliant

#### Modbus® (RS485) Communications (-M):

Modbus RTU protocol, isolated

**Digital Output (-D):** Isolated, open collector, 36 Vdc at 10 mA maximum, frequency output up to 10 kHz

**Relay Output (-R):** Solid state relay, normally open, non-polarized, 28 Vac/40 Vdc at 0.5A maximum, 33 Hz maximum

## Cable

**Control Cable:** Six-conductor water-blocked cable, polyurethane jacket, 6 m (20') standard length for power, pulse frequency or optional outputs; optional lengths up to 30.5 m (100') available

#### Remote Display Cable (FMG2100):

9 m (30') standard length may be shortened (by user in the field). Additional cable can be ordered and attached with the use of a junction box (purchased from a standard supplier) up to 30.5 m (100') total

**Conductivity:** >20 microSiemens/cm

**Empty Pipe Detection:** Hardware/software, conductivity-based

**Regulatory:** CE (EN 61326) pending

**Environmental:** IP68 to 3 m (10') depth

## Units

Total Volume Units	Rate Volume Units	Rate Time Units
Gallons	Gallons	Second
Gallons x 1000	Liters	Minute
Million Gallons	Cubic Feet	Hour
Liters	Cubic Meters	Day
Liters x 1000	Million Gallons	
Mega Liters	Mega Liters	
Cubic Meters	Imperial Gallons	
Cubic Meters x 1000	Million Imperial Gallons	
Cubic Feet		
Cubic Feet x 1000		
Imperial Gallons		
Imperial Gallons x 1000		
Million Imperial Gallons		



FMG-2000 display shown smaller than actual size.

## To Order

Model No.	Description	Flange Size cm (inch)	Flow Range GPM (LPS)
FMG-2003	Magmeter with local display	7.6 (3)	3.62 to 723 (0.23 to 46)
FMG-2004	Magmeter with local display	10 (4)	6.43 to 1285 (0.41 to 81)
FMG-2006	Magmeter with local display	15 (6)	14.5 to 2891 (0.91 to 182)
FMG-2008	Magmeter with local display	20 (8)	25.7 to 5140 (1.62 to 324)
FMG-2010	Magmeter with local display	25 (10)	40.15 to 8031 (2.54 to 507)
FMG-2103	Magmeter with remote display	7.6 (3)	3.62 to 723 (0.23 to 46)
FMG-2104	Magmeter with remote display	10 (4)	6.43 to 1285 (0.41 to 81)
FMG-2106	Magmeter with remote display	15 (6)	14.5 to 2891 (0.91 to 182)
FMG-2108	Magmeter with remote display	20 (8)	25.7 to 5140 (1.62 to 324)
FMG-2110	Magmeter with remote display	25 (10)	40.15 to 8031 (2.54 to 507)

For models with 4 to 20 mA output add "-I" to the model number, for an additional charge.

For models with a digital output add "-D" to the model number, for an additional charge.

For models with a relay output add "-R" to the model number, for an additional charge.

For models powered by 85 to 265 Vac add "-VAC" to the model number, for an additional charge (Vac option is only available on the FMG-2100 remote display models).