

ELECTROMAGNETIC LOW FLOWMETER

FMG70 Series



FMG71 shown actual size.

- ✓ No Moving Parts
- ✓ No Flow Obstructions
- ✓ Maintenance-Free
- ✓ Fast Response Time (< 500 ms)
- ✓ Minimal Straight Pipe Requirements

The FMG70 Series from OMEGA is a trio of extremely compact, low cost, inductive magnetic flow sensors. This product line allows a unique and highly reliable measuring technique to be introduced into areas of process control previously considered not possible.

Changes of temperature, density, viscosity, concentration or electrical conductivity (minimum conductivity of 50 $\mu\text{S}/\text{cm}$) of the fluid do not affect the output signal.

FMG70 series can be used in areas where flow sensors with moving parts e. g. paddle wheel sensors,

cannot be applied due to contamination/particulate in the media. The sensor is intended for continuously measuring of flow rates or for dosing/batching of electrically conductive liquids (minimum conductivity 50 S/cm). The output signal frequency (or current) is proportional to the flow. Two options are available for output signals, frequency or analog (-A Models).

SPECIFICATIONS

Materials of Construction

Electrodes and Process Connection:

Stainless steel 316 TI

Measuring Pipe: PEEK-GF30

Gasket: EPDM

Housing: Cast Aluminum

Accuracy: $\pm 2\%$ of reading

Repeatability: 2%

Minimum Conductivity: 50 $\mu\text{S}/\text{cm}$

Maximum Liquid Temperature:

90°C (194°F)

Ambient Temperature: 5 to 70°C

(41 to 158°F)

Maximum Pressure: 16 bar (232 psi)

Flow Indication: LED green, flow

proportional blinking

Frequency: Square wave signal NPN, internal pull-up resistor 2 k Ω pulse duty ratio 50:50

Signal Current Maximum: 20 mA,

current limited

Response Time: <500 mS

Electrical Connection: Plug connector

M12 x 1

Power Supply: 24 Vdc $\pm 10\%$

Current Consumption:

Maximum 80 mA

Electrical Protection: Measures

short-circuit proof (up to 30V) and

polarity protection (up to -30V)

Protection Class: NEMA 4X (IP65)

Flow Range:

FMG71: 0.95 to 18.9 LPM

(0.25 to 5.0 GPM)

FMG72: 1.89 to 37.9 LPM

(0.5 to 10.0 GPM)

FMG73: 9.46 to 189.3 LPM

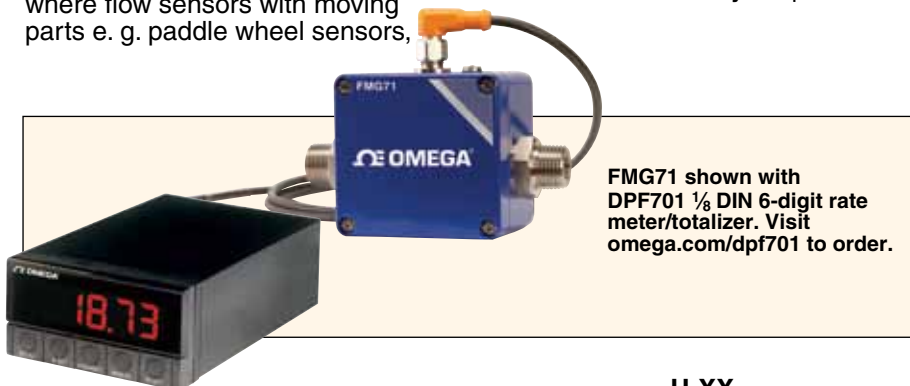
(2.5 to 50.0 GPM)

Analog Output Signal ("-A" Models)

4 to 20 mA (0 to Full Scale):

Current Limitation: 26 mA approx.

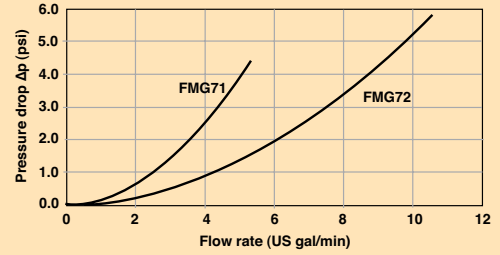
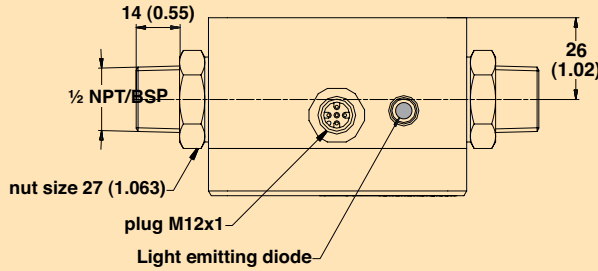
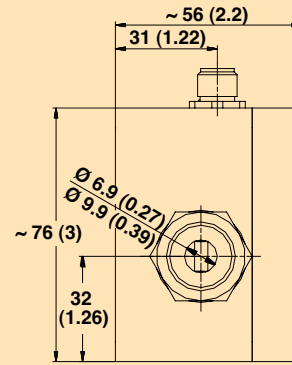
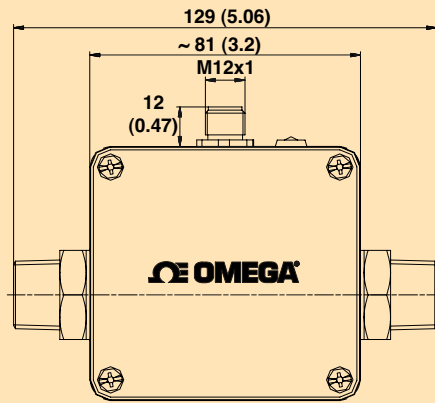
Maximum Load: 250 Ω to GND



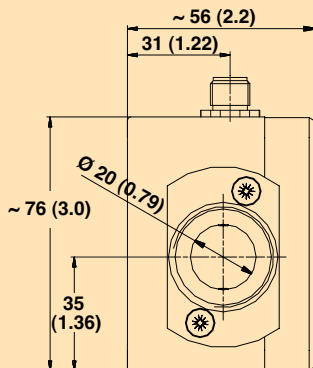
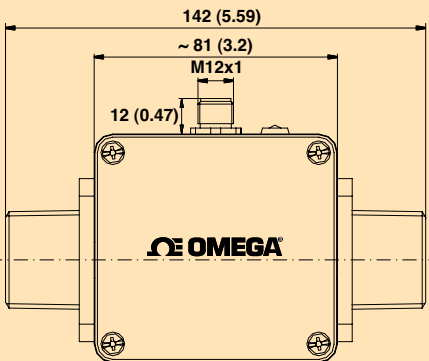
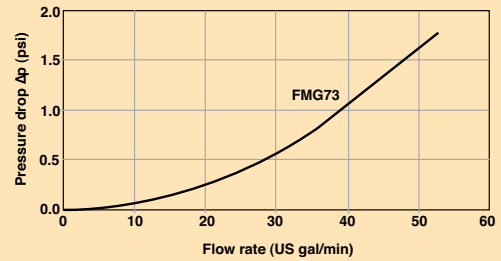
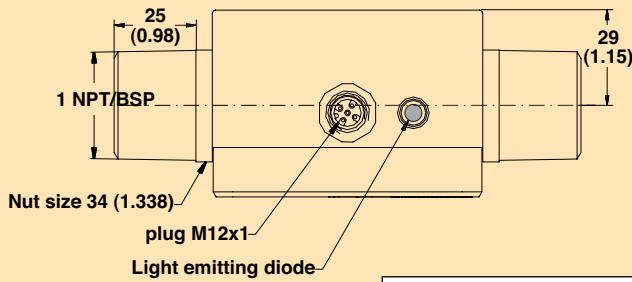
FMG71 shown with DPF701 1/2 DIN 6-digit rate meter/totalizer. Visit omega.com/dpf701 to order.

FMG71
FMG72

Dimensions: mm (inch)
Ø = diameter



FMG73



To Order Visit omega.com/fmg70 for Pricing and Details

Model No.	Model No.	Output	NPT/BSP	Sensor I.D.
FMG71	FMG71-BSP	Npn frequency, 3237 pulses/gal	1/2	1/4"
FMG72	FMG72-BSP	Npn frequency, 3237 pulses/gal	1/2	3/8"
FMG73	FMG73-BSP	Npn frequency, 757 pulses/gal	1	3/4"
FMG71-A	FMG71-A-BSP	4 to 20 mA, 0 to 5 GPM	1/2	1/4"
FMG72-A	FMG72-A-BSP	4 to 20 mA, 0 to 10 GPM	1/2	3/8"
FMG73-A	FMG73-A-BSP	4 to 20 mA, 0 to 50 GPM	1	3/4"

Comes complete with operator's manual.

Ordering Examples: FMG72 flow sensor with frequency output, DPF701 digital panel meter, and M12C-PVC-4-R-F-5, 5 m (16.4') cable. Visit omega.com/dpf701 to order panel meter.

FMG71-A flow sensor with analog output, DPF64 digital rate meter, and M12C-PVC-4-R-F-5, 5 m (16.4') meter cable. Visit omega.com/dpf64 to order rate meter.

Accessories

Model No.	Description
M12C-PVC-4-R-F-5	5 m (16.4') cable with right angle M12 x stripped leads
M12C-PVC-4-R-F-10	10 m (32.8') cable with right angle M12 x stripped leads
PSU-93	Unregulated power supply