

PMG MAGNETIC FLOWMETER



Flow
Pressure
Level
Temperature
measurement
monitoring
control



- **Flow Ranges 0.015-0.5 Through 350-10600 GPM**
- **1/2" to 12" Sizes**
- **Accuracy $\pm 0.5\%$ or $\pm 0.25\%$ of Reading**
- **Viscosity and Density Independent**
- **User Programmable Functions**

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Model:
PMG

For Difficult Liquids and Slurries

Confronted with a seemingly impossible application? If your problem involves a conductive liquid, our PMG Magnetic Flowmeter may be the solution you're looking for.

Any liquid with a conductivity of 5 $\mu\text{S}/\text{cm}$ or greater is a candidate for use with the PMG. The flowmeter is a lined hollow tube with several peripheral metallic electrodes. Since the electrodes protrude negligibly into the meter's pipe walls, the meter is internally almost totally unobstructed. This helps make the PMG suitable for liquids ranging from sewage sludge, to chunky style spaghetti sauce, to a wide variety of chemical applications.

Use of a low frequency, alternating polarity DC magnetic field assures that the unit is insensitive to entrained solid particles and zero drift. An internal autozero feature provides optimal accuracy at all times.

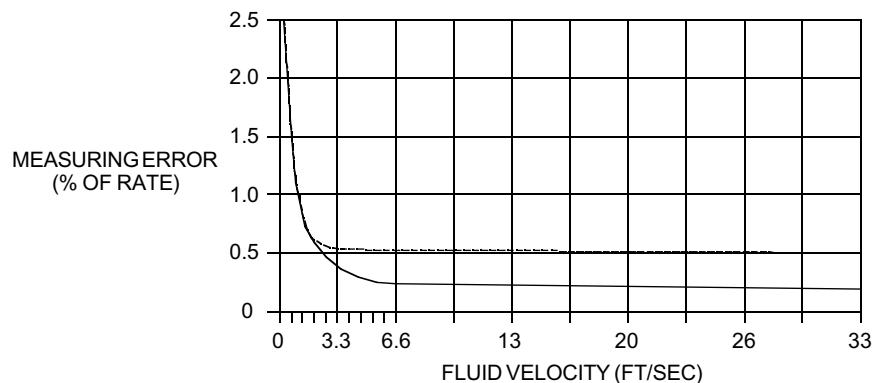
The PMG sensor is available with flanged fittings. The electronics features a two-line backlit LCD rate/total display. The electronics are programmable via the display, allowing the user to set up the measuring units, transmitter span and status variables. Programming via HART Protocol is available as an option. The electronics may be mounted either directly on the sensor (Compact version) or remotely (Remote version.)



General Characteristics

Accuracy:

- Standard:** $\pm 0.5\%$ of reading from 6.6-33 ft/sec
- Optional:** $\pm 0.25\%$ of reading from 6.6-33 ft/sec
- 1-6.6 ft/sec:** $\pm 1.5\%$ of reading maximum



Specifications

Fitting Sizes:	1/2 inch through 12 inches
Fitting Type	
1/2 inch:	ANSI Flange, 316L stainless steel or PVDF
1 to 12 Inches:	ANSI Flange, carbon steel or 316L stainless steel
Wetted Parts	
1/2 inch Size	
Liner:	Teflon (PFA)
Electrodes:	316L stainless steel or Hastelloy C-22
O-ring:	EPDM, Viton or Kalrez
Flanges:	316L stainless steel or PVDF
1 to 12 inch Size	
Liner:	Polyurethane
Electrodes:	316L stainless steel or Hastelloy C-22
O-ring:	none used
Flanges:	not wetted, liner covers flange sealing surface



Max. Pressure:	Per ANSI B16.5 for the supplied flange rating (Class 150 or 300)
Media Temperature	
1/2 inch size w/EPDM seal:	0-265°F
1/2 inch size w/Viton or Kalrez seal:	0-300°F
1 to 12 inch size:	0-160°F
Ambient Temperature:	14 to 120°F
Accuracy	
Standard:	±0.5% of reading from 6.6 to 33 Ft/Sec.
Optional:	±0.25% of reading from 6.6 to 33 Ft/Sec.
Repeatability:	±0.1% of reading ±5 mm/ Sec.
Min. Sensitivity:	0.033 Ft/Sec.
Straight Piping Requirement	
Inlet:	5 X pipe diameter
Outlet:	2 X pipe diameter

Electrical Characteristics

Analog Output:	Sourcing, 0/4-20 mA with programmable span, $R_L < 700\Omega$
Frequency Output (option):	NPN Open collector with programmable span 2-1000 Hz. 30 VDC, 250 mA Max.
Status Input:	3-30 VDC, Leading edge trigger programmable for totalizer reset, measured value suppression, error reset
Supply Voltage:	85-260 VAC or 16-62 VDC depending on model code
Electrical Connection:	1/2" NPT conduit or cable gland PG 13.5
Electrical Protection:	NEMA 4X/IP67

Programmable Features

- Language
- Measuring Units
- 0/4-20 mA Span
- Pulse Width
- Frequency Range
- Dampening
- Lockout Code
- Creep Suppression
- Fail-Safe Modes

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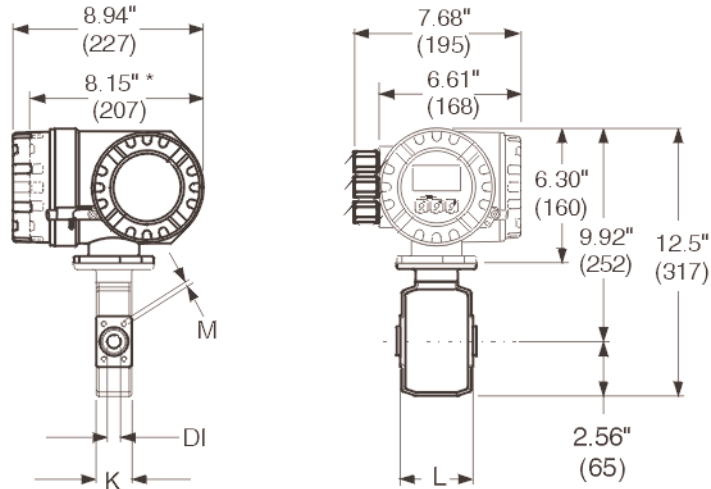
PMG Ordering Information

Fitting Size	Flow Range V=1-33 Ft/Sec. (Note 1)	Base Model	Fitting Type	Seal/Electrode Material	Calibration
1/2"	0.015-0.5 GPM	PMG-02	R = 150 LB ANSI 316L SS V = 150 LB ANSI PVDF	A = EPDM/316L SS B = EPDM/Hastelloy C22 C = Viton/316L SS D = Viton/Hastelloy C-22 E = Kalrez/316L SS F = Kalrez/Hastelloy C-22	1 = 0.5% 2 = 0.25% 3 = 0.5% Non-incendive, FM/CSA approved 4 = 0.25% Non-incendive, FM/CSA approved
1/2"	0.066-1.8 GPM	PMG-04			
1/2"	0.26-7.9 GPM	PMG-08			
1/2"	1.0-27 GPM	PMG-15			
1"	2.5-80 GPM	PMG-25	L = 150 LB ANSI, Steel M = 300 LB ANSI, Steel R = 150 LB ANSI, 316L SS S = 300 LB ANSI, 316L SS	A = without seal/316L SS B = without seal/Hastelloy C-22	
1-1/4"	4-130 GPM	PMG-32			
1-1/2"	7-190 GPM	PMG-40			
2"	10-300 GPM	PMG-50			
2-1/2"	16-500 GPM	PMG-65			
3"	24-800 GPM	PMG-80			
4"	40-1250 GPM	PMG-1H			
5"	60-1950 GPM	PMG-1Z			
6"	90-2650 GPM	PMG-1F			
8"	155-4850 GPM	PMG-2H			
10"	250-7500 GPM	PMG-2F			
12"	350-10600 GPM	PMG-3H			
Electrical/Output Options					
Configuration	Electrical Connection		Input Power		Output
1 = Compact/ NEMA 4X 5 = Remote	B = 1/2" NPT Conduit D = Cable gland, PG 13.5		1 = 85-260 VAC 2 = 16-62 VDC/20-55 VAC		A = 0/4-20mA B = 0/4-20 mA & Frequency C = 0/4-20 mA, Freq. & Status output

Note 1: Accuracy from 6.6-33 Ft/Sec. ±0.5% or ±0.25% of measured value depending on order code. Accuracy from 1-6.6 Ft/Sec. = ±1.5% of measured value worst case.

DIMENSIONS
PMG-02 to PMG-15

1/2" Compact Version
(aluminum field housing)



* Blind option dimension

Nominal Size		Pressure *		DI		L		K		M	Weight	
inches	mm	psig	DIN (bar)	in	mm	in	mm	in	mm	mm	lb	kg
1/12	2	230 / 580	16 / 40	0.09	2.25	3.39	86	1.69	43	M 6x4	11	5.2
5/32	4	230 / 580	16 / 40	0.18	4.5	3.39	86	1.69	43	M 6x4	11	5.2
5/16	8	230 / 580	16 / 40	0.35	9	3.39	86	1.69	43	M 6x4	12	5.3
1/2	15	230 / 580	16 / 40	0.63	16	3.39	86	1.69	43	M 6x4	12	5.4

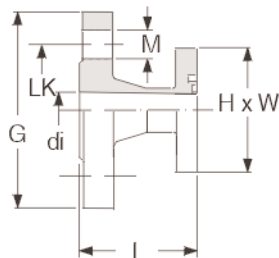
* The permissible nominal pressure depends on the process connection and seal:
580 psig (40 bar), flange and welding adapter (with O-ring seal)
230 psig (16 bar), all other process connections.

NOTE: Fitting length depends on process connections selected.

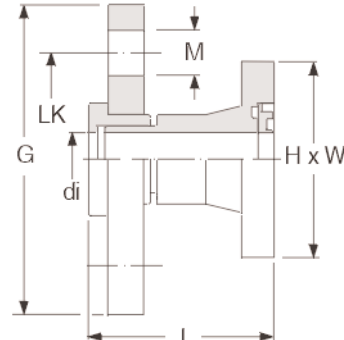
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FITTINGS

Fitting R



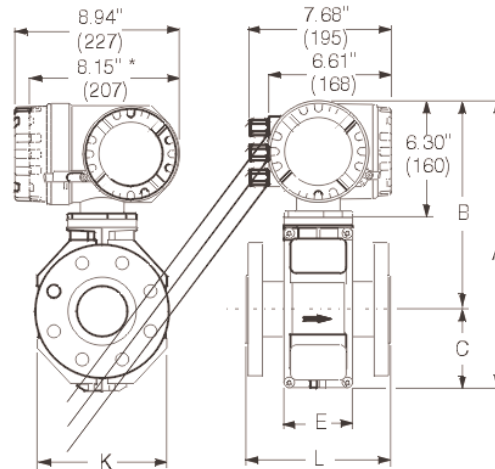
Fitting V





DIMENSIONS
PMG-25 to PMG-3H

1" to 12" Compact Version



* Blind option dimension

Nominal Size		L		A		B		C		K		E		Weight *	
inches	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
1	25	7.87	200	13.4	341	10.1	257	3.31	84	4.72	120	3.70	94	16	7.3
1-1/2	40	7.87	200	13.4	341	10.1	257	3.31	84	4.72	120	3.70	94	20	9.4
2	50	7.87	200	13.4	341	10.1	257	3.31	84	4.72	120	3.70	94	23	10.6
3	80	7.87	200	15.4	391	11.1	282	4.29	109	7.08	180	3.70	94	31	14
4	100	9.84	250	15.4	391	11.1	282	4.29	109	7.08	180	3.70	94	35	16
6	150	11.8	300	18.6	472	12.7	322	5.90	150	10.2	260	5.51	140	56	25.5
8	200	13.8	350	20.7	527	13.6	347	7.08	180	12.7	324	6.14	156	99	45
10	250	17.7	450	22.7	577	14.6	372	8.07	205	15.7	400	6.14	156	165	75
12	300	19.7	500	24.7	627	15.6	397	9.05	230	18.1	460	6.53	166	242	110

* Weight data valid for 150 lb ANSI version.