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 ±0.5% or ±0.25% of Reading**
- **Viscosity and Density Independent**
- **User Programmable Functions**

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Model:
PMG

For Difficult Liquids and Slurries

Features

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- 1/2” to 12” Sizes
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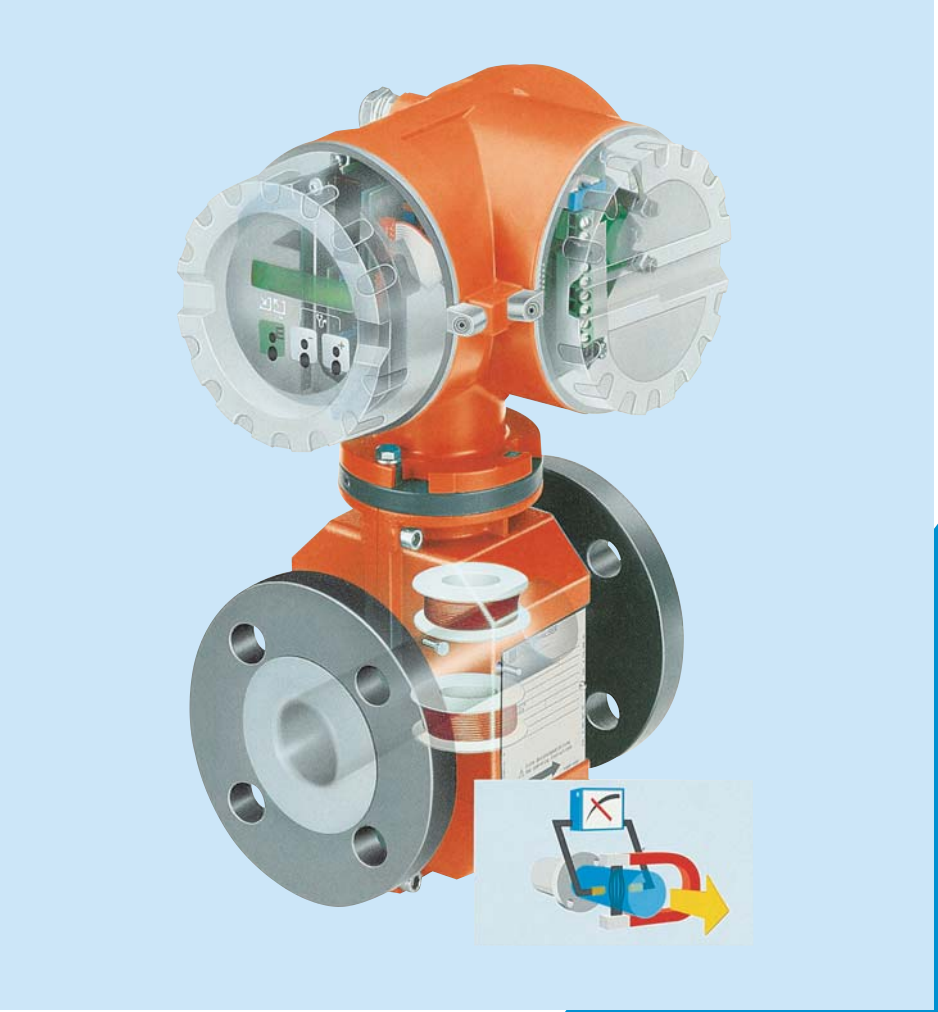
- User Programmable Functions

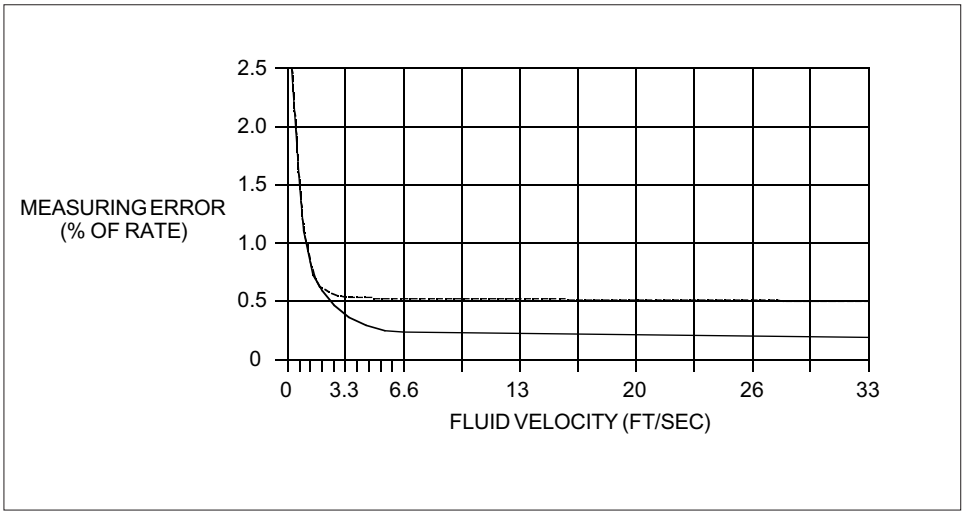


Confronted with a seemingly impossible application? If your problem involves a conductive liquid, our PMG Magnetic Flowmeter may be the solution you’re looking for.

Any liquid with a conductivity of 5 µS/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:	± 0.5 % of reading from 6.6-33 ft/sec
Optional:	± 0.25 % of reading from 6.6-33 ft/sec
1-6.6 ft/sec:	± 1.5% of reading maximum

Subject to change without prior notice.

Specifications

Minimum Liquid Conductivity
- **Demineralized Water:** >20µs/cm
- **Other Liquids:** >5 µs/cm

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<700Ω

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

Optional: NEMA 6P/IP68 (Remote version only)

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**			
1/2”	0.066-1.8 GPM	**PMG-04**	**R** = 150 LB	**A** = EPDM/316L SS	
1/2”	0.26-7.9 GPM	**PMG-08**	ANSI 316L SS	**B** = EPDM/Hastelloy C22	
1/2”	1.0-27 GPM	**PMG-15**	**V** = 150 LB	**C** = Viton/316L SS	
			ANSI PVDF	**D** = Viton/Hastelloy C-22	
				E = Kalrez/316L SS	
				F = Kalrez/Hastelloy C-22	**1** = 0.5%
1”	2.5-80 GPM	**PMG-25**			**2** = 0.25%
1-1/4”	4-130 GPM	**PMG-32**			**3** = 0.5% Non-incendive, FM/CSA approved
1-1/2”	7-190 GPM	**PMG-40**			
2”	10-300 GPM	**PMG-50**			**4** = 0.25% Non-incendive, FM/CSA approved
2-1/2”	16-500 GPM	**PMG-65**	**L** = 150 LB	**A** = without seal/316L SS	
3”	24-800 GPM	**PMG-80**	ANSI, Steel	**B** = without seal/Hastelloy C-22	
4”	40-1250 GPM	**PMG-1H**	**M** = 300 LB		
5”	60-1950 GPM	**PMG-1Z**	ANSI, Steel		
6”	90-2650 GPM	**PMG-1F**	**R** = 150 LB		
8”	155-4850 GPM	**PMG-2H**	ANSI, 316L SS		
10”	250-7500 GPM	**PMG-2F**	**S** = 300 LB		
12”	350-10600 GPM	**PMG-3H**	ANSI, 316L SS		

Electrical/Output Options

Configuration	Electrical Connection	Input Power	Output
1 = Compact/ NEMA 4X	**B** = 1/2” NPT Conduit	**1** = 85-260 VAC	**A** = 0/4-20mA
5 = Remote	**D** = Cable gland, PG 13.5	**2** = 16-62 VDC/20-55 VAC	**B** = 0/4-20 mA & Frequency
C = Remote/NEMA 6P (Submersible)			**C** = 0/4-20 mA, Freq. & Status output
			W- 4-20 mA w/ HART Protocol

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.

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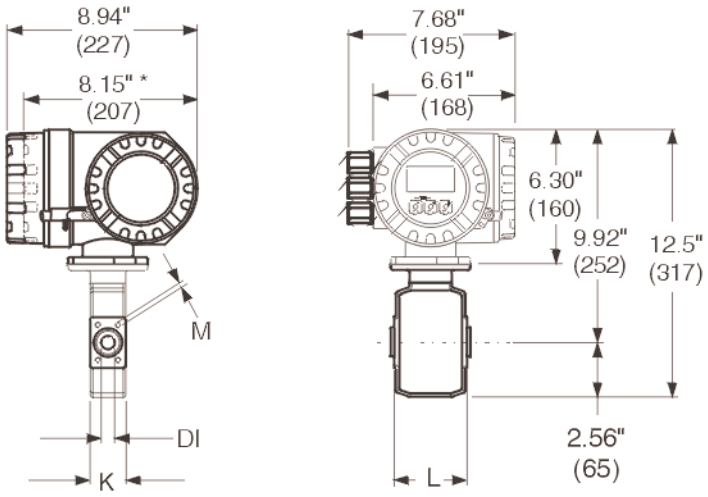
DIMENSIONS
PMG-02 to PMG-15

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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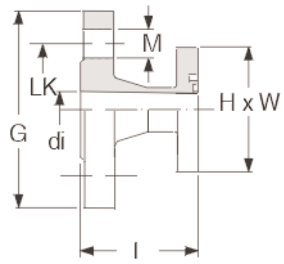
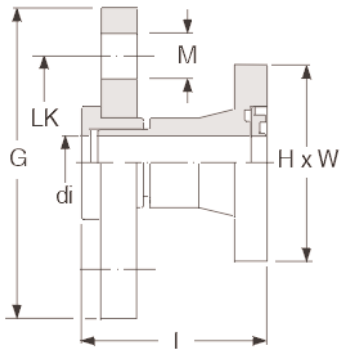
FITTINGS

Fitting R

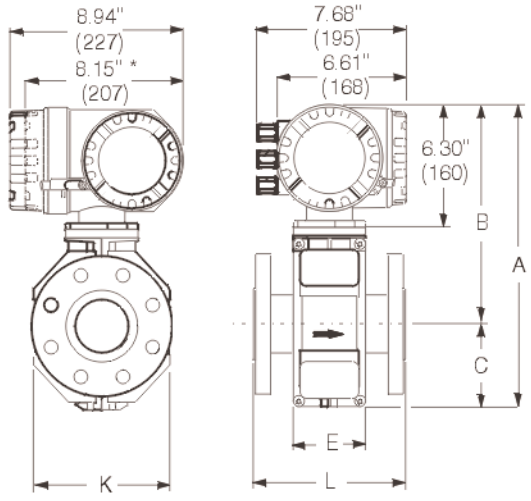


Fitting V



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.

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