



ALMAG

Electromagnetic Flowmeter

ALMAGIS Series

GENERAL

SMC's ALMAG-IS is an insertion-type electromagnetic flowmeter designed to measure the fluid velocity of conductive liquids in applications where hot-tap or insertion installations are preferred. This insertion mag meter is available in four standard lengths and may be installed in any pipeline with internal diameters ranging from 2" to 120" (50~3000 mm) and in permanent locations where cost or space limitations preclude the use of conventional in-line style meters. Available pipe connections include hot-tapped, DIN and NPT threads. The ALMAGIS is designed for use with conductive fluids including water, raw sewage, and wastewater, clarified water, RAS, WAS, primary sludge and cooling tower water, as long as adequate lengths of straight pipe are available where the sensor is installed.

FEATURES

- Applicable sizes: 2"~120" (50~3000 mm)
- Operating pressure: $\leq 1.6\text{MPa}$
- Velocity range of 0.5~10m/s
- Accuracy: $\pm 1.5\%$
- Hot-tap sensor can be installed and retracted from process piping
- Conductivity of measured medium: $\leq 20\text{ }\mu\text{S/cm}$
- Electrode materials: 316L, Hastalloy, Ti, Ni, Tantalum
- Maximum distance between sensor and converter: $\leq 50\text{m}$
- NIST traceable calibration



SPECIFICATIONS

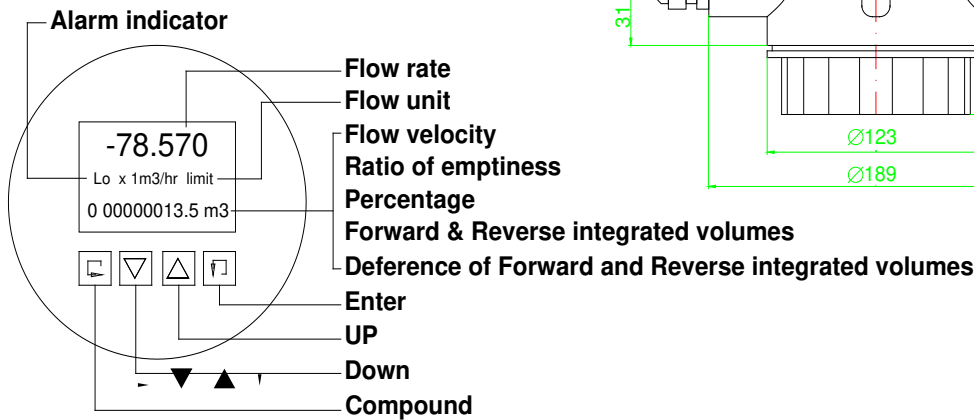
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|-----------------------------|---|------------------------|--|
| ● Line Size | : 2"~120" (50~3000 mm) | ● Cable Entry | : 2 X PG11 |
| ● Measuring Range | : 0.5 - 10 m/s -bi-direction | ● Ambient Temperature | : -13 to 140 °F (-25 to 60 °C) |
| ● Connection | : Weld, ball valve(threaded and flange) | ● Protection | : IP 65 - std
IP 68 (Submersible) - only for remote |
| ● Accuracy | : $\pm 1.5\%$ of reading (velocity $v \geq 1\text{m/s}$) | ● Grounding Resistance | : Must be $\leq 10\text{ }\Omega$ |
| ● Temperature | up to 248 °F (120 °C) max. | ● Power requirements | : 19-36 V _{DC} , 12-15W
85-265 V _{AC} , 45-63 Hz, $\leq 20\text{W}$ |
| ● Pressure | up to 230 psig (1.6 Mpa) max. | ● Outputs | : 4-20mA, Pulse, |
| ● Materials of Construction | | ● Communication | : RS232/485/HART, Modbus |
| Transmitter housing | : Aluminum | ● Display | : Flow rate, flow velocity, percentage,
Total flow
Total flow |
| Probe | : SS #304 (std), 316L, Ti | | |
| Electrode | : 316L, HC-22, HB3, Ti | | |
| ● Media Conductivity | : $> 20\text{ }\mu\text{S/cm}$ | | |

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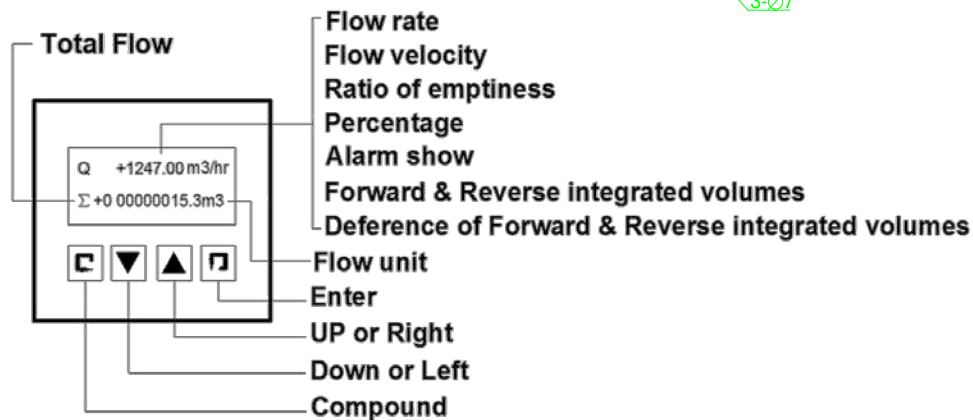
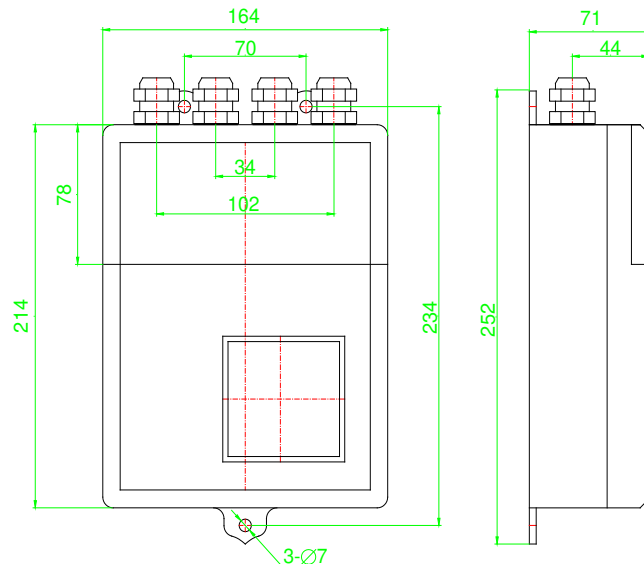
Electromagnetic Flowmeter

➤ Mounting drawing

● Standard Integral type



● Standard Remote type



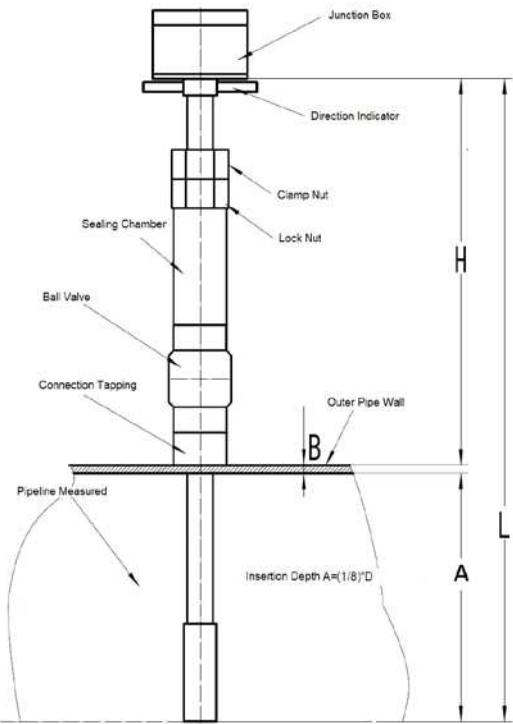
➤ DIMENSIONS - Insertion

Calculation of Insertion Height for fixed and retractable types

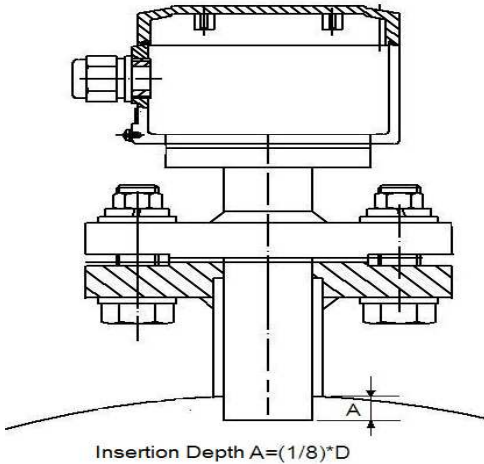
$H = L - A - B$

- H --- insertion height, mm
- L --- nominal length of the sensor; L=600mm, 900mm, 1200mm,1500mm
- A --- insertion depth (D/8), mm
- B --- thickness of the pipe wall, mm

Retractable type

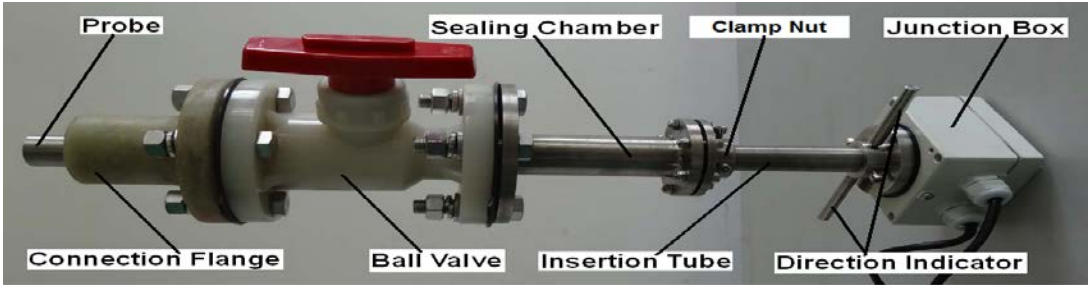


Flanged type



Pipe Size	Insertion Depth (D)= pipe inner diameter
DN50~DN150	($\frac{1}{8}$) *D
DN200~DN600	($\frac{1}{8}$) *D or ($\frac{1}{2}$) *D
DN700~DN8000	($\frac{1}{8}$) *D

Model	Probe Length (mm)	DN Size
		Insertion Depth ($\frac{1}{8}$) *D
EMF-B-600	600	DN50 ~ DN1600
EMF-B-900	900	DN450 ~ DN4800
EMF-B-1200	1200	DN1400 ~ DN7200
EMF-B-1500	1500	DN2000 ~ DN8000



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**** Please contact your local Smart Measurement application engineer**

You also need to provide the following information:

Type of Fluid	Please provide the name of your fluid
Full Scale Flow	Maximum and minimum flow rates; units must be in GPM, LPM or m³/hr, etc..
Line Size	Please provide pipe size as well connection type (flanged, threaded, etc..)
Pressure & Temperature	We will calibrate your flowmeter as close to your operating conditions as possible

➤ Model Selection Guide

ALMAG Series																	
Example: ALMAGIS-BF-50-0-3-IN-2.5-65-0-DC-0-EXI-NN-NN																	
ALMAGIS-	*_	*	*_	*	*_	*	*_	*	*_	*	*_	*	*_	**_	**	Description	
Weld	W														Connection		
Ball valve - Welded	BW																
Ball valve - thread	BT																
Ball valve - Flanged	BF																
2"~120" (DN50~DN3000)		**														Size	
304 stainless steel			0												Probe		
316 stainless steel			1														
Ti			2														
Hastalloy C			3														
316 stainless steel			0												Electrode		
Nickel			1														
Hastalloy C			2														
Tan			3														
Ti			4														
Integral type				IN												Transmitter	
Remote type - with 5m cable				RE													
Max Pressure 1.6Mpa						1.6										Pressure	
IP65						65										Protection	
IP68 flow body and IP65 transmitter, only for remote type						68											
Not Needed								0								Grounding rings	
11-40V _{DC}									DC							Power supply	
85~265V _{AC} , 50/60 Hz									AC								
Non communication									0							Communication	
HART									1								
RS485 - Modbus									2								
RS485 - Profibus DP									3								
None											NX					Explosion proof	
Explosion Proof - for integral type											EXI						
Explosion Proof - for remote type											EXR						
Aluminum Enclosure, SS #304 probe														NN			Materials
None														NN			Options
With welding installation part														WP			