



ALMAG-IS

Electromagnetic Flowmeter

Model ALMAG Series

GENERAL

SMARTMEASUREMENT'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 connections include hot-tapped, NPT threads and ANSI or DIN flanges. 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

- Available sizes: 2"~120" (50~3000 mm)
- Operating pressure: 0.6MPa, 1.0MPa, 1.6MPa, 2.5MPa, 4.0MPa
- 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: $\leq 20 \mu\text{S/cm}$
- Electrode materials: SS# 316L, Hastalloy, Ti, Ni, Tantalum
- Maximum distance between sensor and converter: $\leq 50\text{m}$
- NIST traceable calibration



SPECIFICATIONS

- | | | | |
|------------------------------|---|-------------------------|--|
| • Line Size: | 2"~120" (50~3000 mm) | • Cable Entry: | 2 X PG11 |
| • Measuring Range: | 0.5~10 m/s, bi-directional | • Ambient Temperature: | -13 to 140 °F (-25~60 °C) |
| • Connection: | Weld, ball valve(threaded and flanged) | • Protection: | IP 65 - std
IP 68 (Submersible) - only for remote |
| • Accuracy: | $\pm 1.5\%$ of reading, bi-directional
for velocities $\geq 1\text{m/s}$ | • Grounding Resistance: | Must be $\leq 10 \Omega$ |
| • 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 |
| | Probe: SS #304 (std), 316L, Ti | | |
| | Electrode: SS# 316L, HC-22, HB3, Ti | | |
| • Media Conductivity: | $> 20 \mu\text{S/cm}$ | | |

PRODUCT TYPE AND COMPOSITION

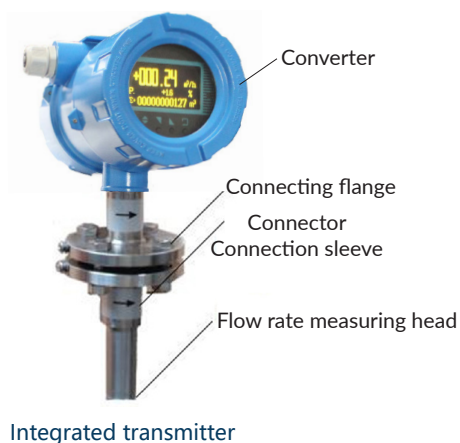
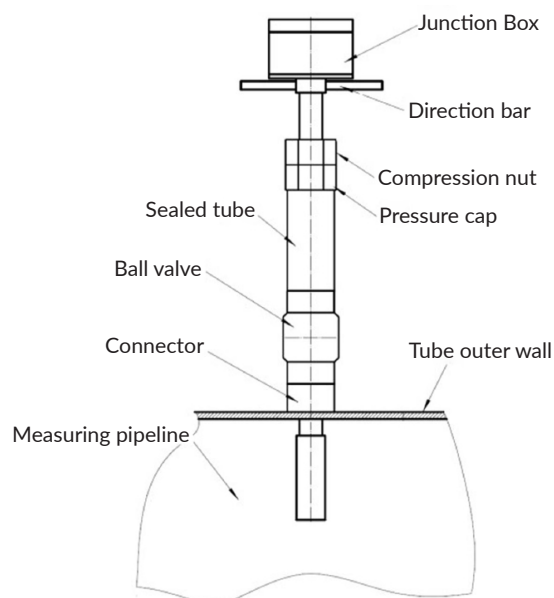
■ Insert rod length and measuring pipe diameter table

model	Measured pipe diameter	
	Insert into (1/2) * D	Insert into (1/8) * D
ALMAG-B-500	DN50 ~ DN400	DN50 ~ DN1600
ALMAG-B-900	DN450 ~ DN1200	DN50 ~ DN4800
ALMAG-B-1200	DN1300 ~ DN1800	DN50 ~ DN7200
ALMAG-B-1500	DN2000 ~ DN2400	DN50 ~ DN8000

■ Fixed length installation type



■ Online pluggable installation type



DIMENSIONS - INSERTION

■ Calculation of Insertion Height for fixed and retractable types

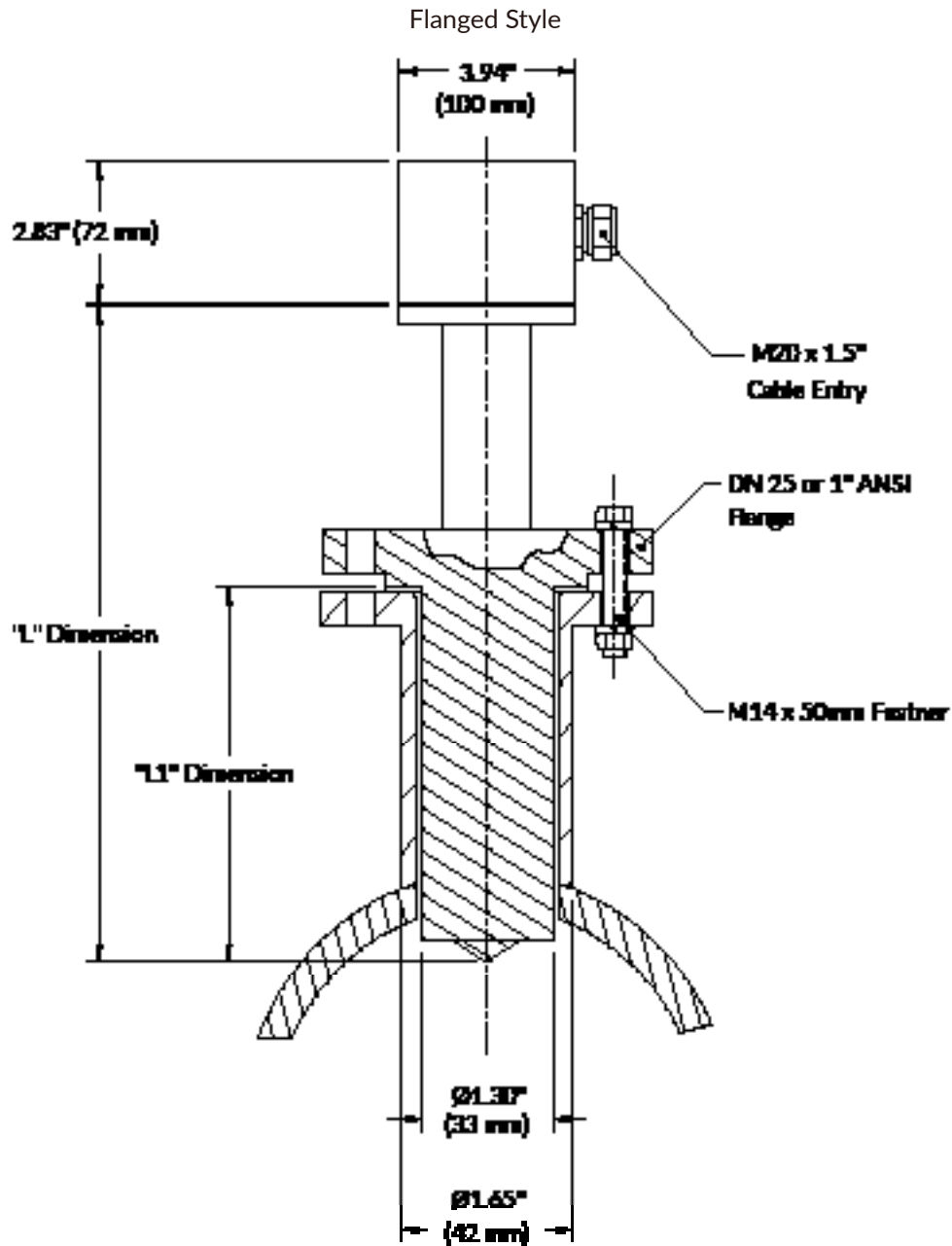
$$H = L - A - B$$

H --- insertion height, mm

L --- the nominal length of sensor, L=600mm, 900mm, 1200mm, 1500mm

A --- the insertion depth (D/8), mm

B --- the thickness of pipe wall, mm



Nominal Line Size	"L" Diminsion	"L1" Dimension
≤ 16" (DN 400)	18.2" (208 mm)	4.92" (125 mm)
>16" (DN 400)	9.76" (248 mm)	6.50" (165 mm)

Please contact your **SmartMeasurement** application engineer

You also need to provide the following information:

TYPE OF FLUID
FULL SCALE FLOW
LINE SIZE
PRESSURE & TEMPERATURE

Please provide the name of your fluid media, the operating PH, and conductivity

Please provide the max and min flow rate, in units of Lb/hr, GPM or LPM

Please provide the nominal pipe size as well process connection type (flange, threaded, etc..)

We will calibrate your flow meter as close to your operating conditions as possible

ALMAG IS SERIES

EXAMPLE: ALMAGIS-BF-50-0-3-IN-2.5-65-0-DC-0-EXI-NN-NN

ALMAG IS	**	**	**	**	**	**	**	**	**	**	**	**	**	**	DESCRIPTION		
Weld	W														Connection		
Ball valve - Welded	BW																
Ball valve - Threaded	BT																
Ball valve - Flanged	BF																
DN50~DN3000	**														Line Size		
316 stainless steel	0														Electrode		
Nickel	1																
Hast C	2																
Tan	3																
Ti	4																
304 stainless steel	0															Probe material	
316 stainless steel	1																
Ti	2																
Hastalloy C	3																
Integral type					IN										Transmitter		
Remote type - with 5m cable					RE												
Max Pressure 1.6Mpa	1.6															Pressure	
Standard - IP65									65								Protection
IP68 flowbody and IP65 transmitter, only for remote type									68								
Not Needed										0							Grounding electrode/ring
16~30 V _{DC}											DC						Power supply
85~265V _{AC} , @ 45 -63 Hz											AC						
No digital 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					
Aluminium enclosure, PEEK liner													NN			Materials	
Energy meter with RTD (only remote)														EG	Option		
With welding installation part														WP			

