

Process Control Instrument

Flow Measurement & Control

Conductive liquid / Slurry

10 $\mu\text{m}/\text{cm}^2$

Duplex

RTD Pulsed DC

ss 316 L ss304

Pressure Measurement & Control
Temperature Measurement & control
 $\leq 150^\circ\text{C}$ Cable 80 kg/cm²

aaavad[©]
INSTRUMENT

K Type

Pt 100

Portable Instruments

Hastelloy C

Flameproof

Simplex

Triclover

Relay

VALUE OF WORDS

Electromagnetic Flow Meter

Working Principle

Electromagnetic Flowmeters are based on Faraday's Law of Electromagnetic Induction. In an Electromagnetic Flowmeter, the magnetic field is generated by a set of coils. As the conductive liquid passes through the electromagnetic field, an electric voltage is induced in the liquid which is directly proportional to its velocity. This induced voltage is perpendicular to both, the liquid flow direction and the electromagnetic field direction. The voltage sensed by the electrodes is further processed by the transmitter to give standardized output signal or displayed in appropriate engineering unit. The electromagnetic flow meter accurately measures the flow rate of conducting liquids or slurries flowing in closed pipes. It is obstruction less and hence does not add pressure drop to the process. Absence of moving parts eliminates the need for maintenance. The performance of the instrument is not affected by the properties of the material such as corrosiveness, viscosity and density.

Features

- Empty Pipe Detection
- Low Flow Cut off
- Display in User Selectable units
- Programmable Pulse on-time
- Adjustable Damping
- Digital Output
- Full bore type
- Suitable for conductive liquids
- Maintenance free
- Simple & cost effective construction
- Flow measurement in forward and reverse direction



Technical Specifications

Model	AMAG-I / AMAG-R / AMAG-O	Flanged std	ANSI 150
Media	Conductive liquid / Slurry	End connection	Flanged
Line size	15 NB to 500 NB, Customised	Accuracy	0.5 % of the reading
Conductivity	>10 $\mu\text{S/cm}$	Display	LED/LCD
Excitation	Pulsed DC	Display unit	M3, ltr, Gallen all standard engineering unit
Working pressure	10 kg/cm ²	Power supply	85 to 230 v ac,50 Hz / 24 V dc
Working temperature	70°C for rubber , 120°C for PTFE	Out put	4-20 mA, Pulse, Relay (Optional)
Velocity	0.3 to 10 m/s	Communication	RS 485, RS 232, HART (Optional)
Sensor housing	MS/SS/CS	Protection class for sensor	Std 65, Optional IP 68 for remote
Measuring tube	ss304	Protection class for transmitter	IP 67
Electrode	ss 316 L / Hastelloy C	Transmitter MOC	Aluminum Die cast

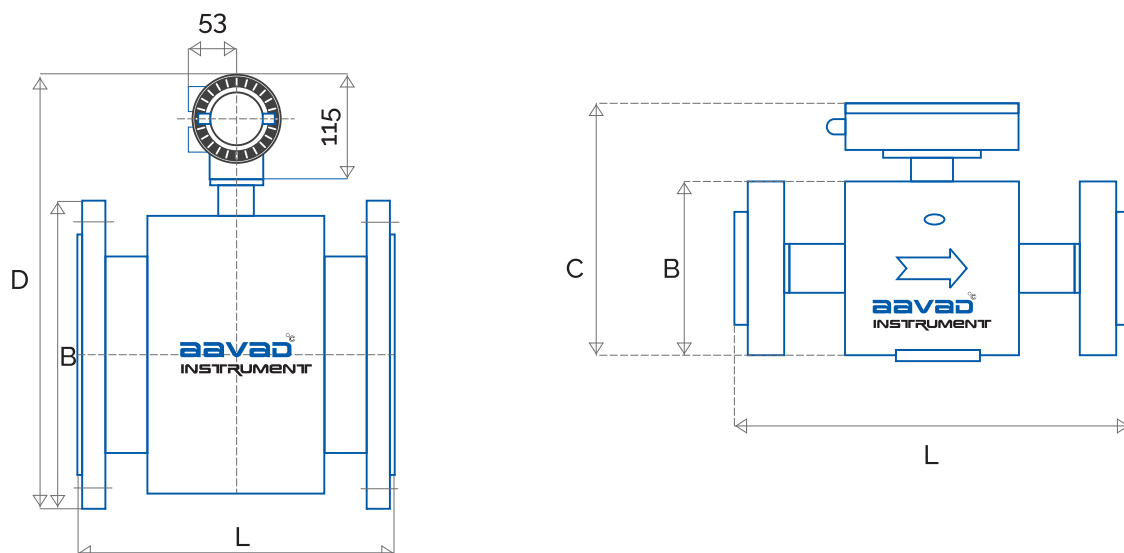
Industry Served

- Food Industry
- Chemical Industry
- Energy
- OEM Industry
- Automation Industry
- Thermal Power Energy
- Process Industry
- Waste Water Managment



Dimension Chart

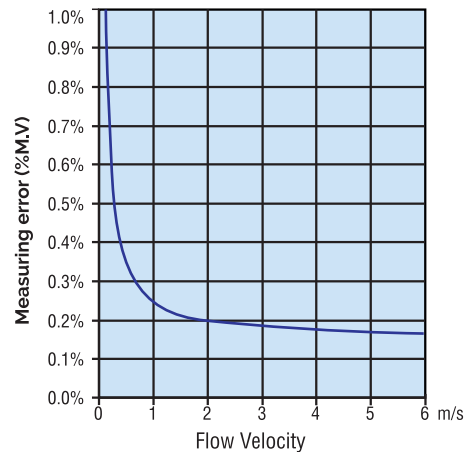
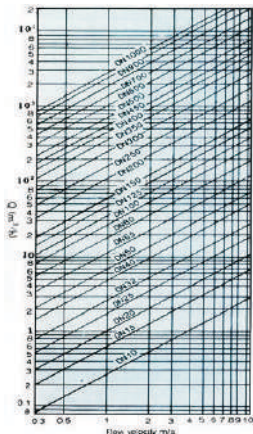
DN	L (mm)	B (mm)	C (mm)	D (mm)	PCD of Flange
DN 15	191	89.9	193.9	253.9	60.5
DN 20	191	98.4	293.4	263.4	70.0
DN 25	191	107.9	212.9	272.9	79.5
DN 32	191	117.5	222.5	282.5	89.0
DN 40	191	127.0	232.0	292.0	98.5
DN 50	192	152.4	257.4	317.4	120.5
DN 65	192	177.8	282.8	342.8	139.5
DN 80	192	190.5	295.5	355.5	152.5
DN 100	237	228.6	333.6	393.6	190.5
DN 125	240	254	359.0	419.0	216.0
DN 150	240	279.6	384.6	444.6	241.5
DN 200	310	342.9	447.9	507.9	298.5
DN 250	362	406.9	511.9	571.9	362.0
DN 300	412	482.6	587.6	647.6	432.0
DN 350	412	533.4	638.4	698.4	476.0
DN 400	515	596.4	701.4	761.4	539.5
DN 450	515	635.0	740.4	800.4	578.0
DN 500	516	698.5	803.5	663.5	635.0



Minimum - Maximum Flow Table

Size in mm	Flow Range (m ³ / hr) at 0.3 to 10 M/S	
	MINIMUM	MAXIMUM
15	0.19	6.35
20	0.34	11.34
25	0.53	17.66
32	0.87	29.93
40	1.36	45.21
50	2.12	70.65
65	3.58	119
80	5.42	180
100	8.48	282
125	13.25	441
150	19.08	635
200	33.92	1130
250	53.01	1766
300	76.34	2543
350	103.91	3461
400	135.72	4521
450	171.77	5722
500	212.06	7065

Flow Nomograph



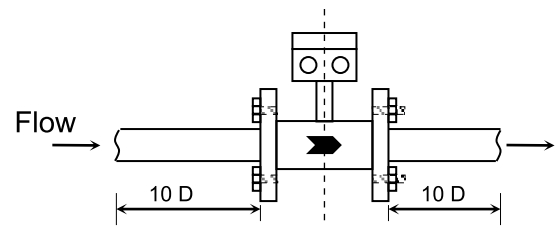
Installation Guide

The Primary Flow Tube can be installed at any point in the pipe run either horizontal or vertical provided the following conditions are met:

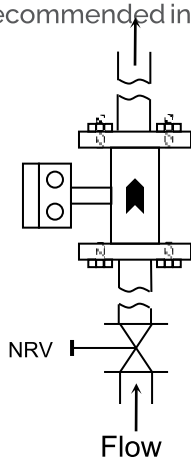
The direction of flow through the pipe is same as indicated on the primary flow tube by a red arrow.

Straight lengths of maximum 10 D on upstream and minimum 10 D on down-stream as shown. If disturbances like cork screwing or vortex flow conditions are present straight lengths should be increased or flow straighteners should be used.

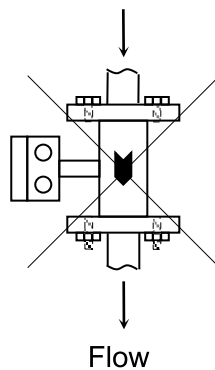
Flaps, slidegates, valves etc should be arranged at a distance of at least 5D downstream of primary flow tube.



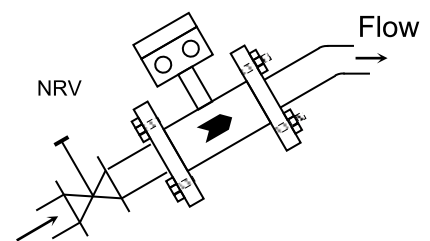
Ensure that primary flow tube remains completely filled by the fluid under measurement even under no flow condition. This ensures trouble free and reliable operation of the Flow Meter. Select a location on the pipe, which will always run full of liquid. For vertical installations the direction of flow against Gravity ensures full pipe. Some of the recommended installations are as under:



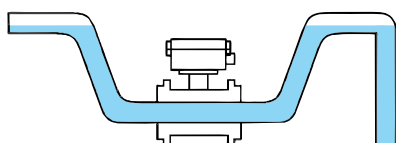
Recommended



Not Recommended

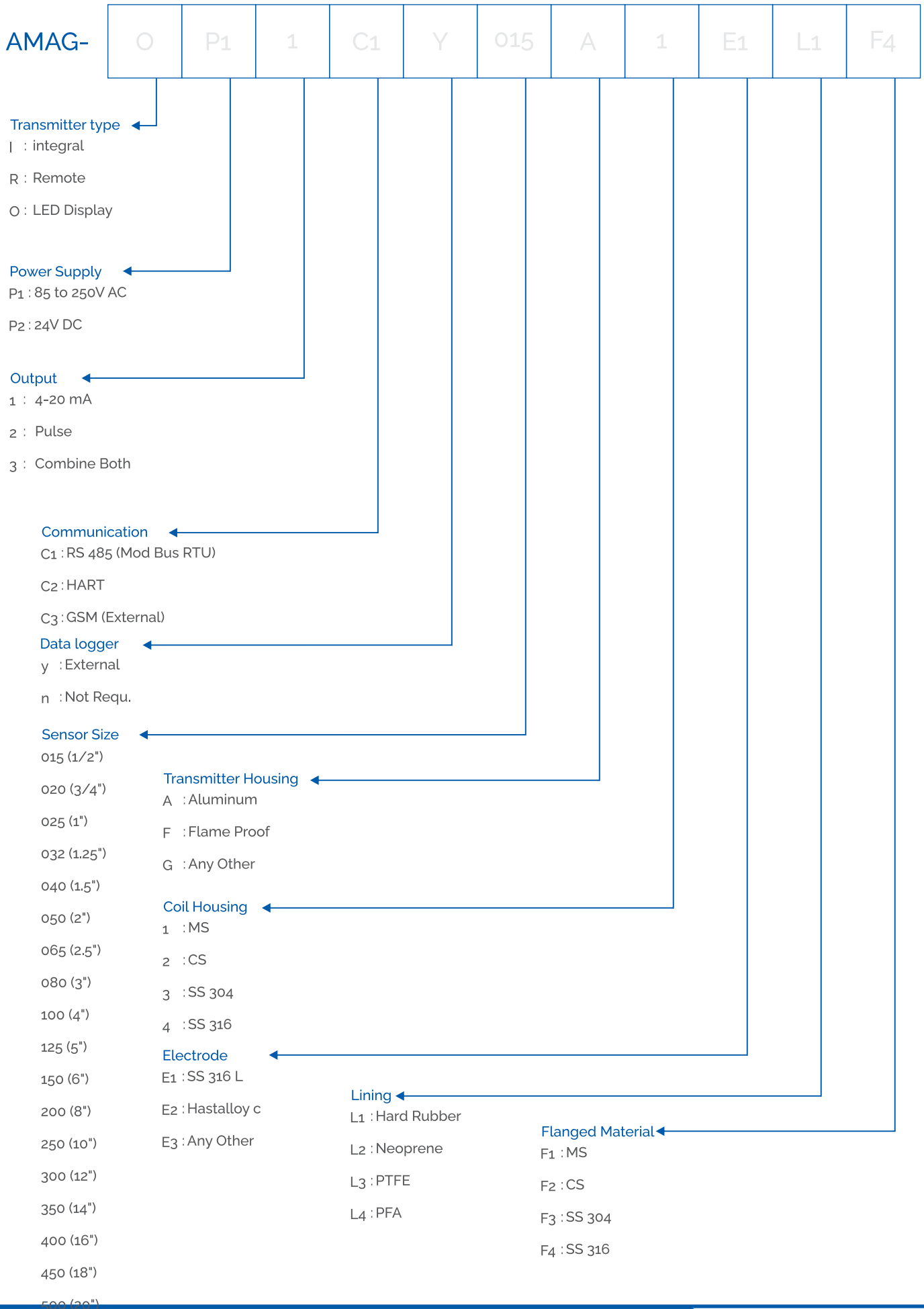


Recommended



For partially filled pipes or pipes with down flow and free outlet the flow meter should be located in a U-tube.

Ordering Code





Temperature



Pressure



Flow



Process

AAVAD PRODUCT BASKET



Cable



Instrument & Accessories



Level



Other Products



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Manufacturer Of Electromagnetic Flow Meter, Piezo Meter, Pressure Gauge, Temperature Gauge, RTD Sensors, Thermocouple & Thermowell