

MAAS ENGINEERS

An Integrated Metering Company

About Us:

Maas Engineers is located in Greater Noida, India.

Our company is a specialized manufacturer of automation instrumentation such as electromagnetic flowmeters, vortex flowmeters, ultrasonic flowmeters, sensor, converter, flow totalizer, Turbine Flow Meter, Oil Flow Meter, Gas Flow Meter, Orifice Flow Meter,

Our business are established on the basis of high quality, good price and honest. All the customers will have our best services and share the most reasonable prices. We have very good cooperation with many enterprises in domestic and abroad. Now our products not only sale on the market of Indian , but also export to USA, Europe and other Asian countries, etc.

If you are interested in any items, or your customers require to fill, you can contact us directly. Thank you for visiting our website and we welcome the business discussion through either telephone or email to us.

From the desk of CEO

Electromagnetic Flow meter CATALOGUE



OVERVIEW

The Smart Electromagnetic Flowmeter Is Of Perfect Performance And Reliability. Based On the Successfully Proven Smart Flow Technology of Mass Engineers instruments, the flow meter is widely used in industries of petroleum, chemical engineering, iron and steel, food electric power, paper making, water treatment, petro chemistry & medicine etc.

FEATURES

Measurement is independent of fluid density, humidity, temperature, pressure and conductivity. There are no obstacle elements in the conduit, No pressure drop, the requirement of straight pipe is low. The sensor with advanced processing technology is of nice resistance to negative pressure. The liquid crystal display in the converter of smart series Magnetic flow meter makes it easy to read in the sun or in the dark room. In bad environment parameters can be set up through the infrared ray touch knobs without opening the cover of the converter. The converter has alarm output function of self-diagnosis, empty load test high and low limit of the flow, two-stage flow value, etc. not only apply in generally process test but also in the test of the mineral serosity, paper pulp as well as pastry liquid. High pressure type electromagnetic flow sensor adopting PFA lining technology which is resistant to high pressure and negative pressure is specially applicable in industries of oil, chemistry, etc.

PERFORMANCE SPECIFICATIONS

Size: DN10-DN3000mm

Nominal Pressure: 0.6-4.0MPa

Accuracy: $\pm 0.5\%$ of the value displayed, $\pm 0.3\%$ or $\pm 0.2\%$ are optional

Liner Material: Teflon, PFA, F46, Neoprene, Polyurethane.

Electrode Type: General type, Scraper type and Replaceable type.

Electrode Material: SS316, Hastelloy B, Hastelloy C, Titanium, Tantalum, Platinum-iridium, stainless steel covered with tungsten.

Medium Temperature Integral type: $10^{\circ}\text{C} \sim +80^{\circ}\text{C}$

Remote Type: Neoprene & Polyurethane Liner --- $10^{\circ}\text{C} \sim +80^{\circ}\text{C}$
PTFE, PFA, F46 Liner $10^{\circ}\text{C} \sim +160^{\circ}\text{C}$

Ambient Temperature: $25^{\circ}\text{C} \sim +60^{\circ}\text{C}$

Ambient Humidity: 5-100% RH (relative humidity)

Medium Electrical conductivity: $\geq 5.0 \text{ s/cm}$

Measuring Range: 1500:1, flow rate $\leq 15\text{m/s}$

Structure Type: Integral type, remote type, submersible type, ex proof type.

Protection Class: IP65, IP68 (optional), IP65 Dustproof and Watertight: IP68 Dustproof and submersible for long (only for remote type)

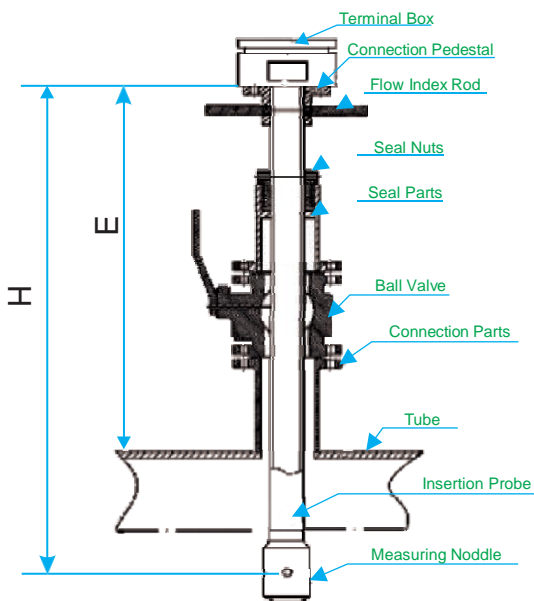
Ex-proof Mark: ExmdIIBT4

SELECTION PRINCIPALS

The measured liquid must be conductivity liquid of serosity of which the conductivity should be more than 50 s/cm the medium should not contain much magnetic matter of air bubbles.

Pressure grade lining material, electrode material and structure type should be selected according to the medium's temperature corrosiveness, abrasion, etc.

Normally the sized of flow meter should be the same as the pipe diameter.



Sensor Structure



Remote Type



Remote Converter



Integral Type



Insertion Type

Table 1: Main performances of the liner materials

Liner Material	Main Performances	Applications
PTFE	1. The most steady material in plastics which is resistant to boiling hydrochloric acid, vitriolandaqua fortis as well as strong alkali and organic impregnants. 2. Not be perfect in abrasion resistance.	Strong corrosive mediums such as strong acid and alkali
PFA	Having the same abrasion resistance with PTFE. Having strong ability of load pressure resistance.	Applicable in state of load pressure.
F46	1. Having the same abrasion resistance with PTFE. 2. Resistable for low abrasion. 3. Having strong resistance to load pressure.	1. The same as PTFE. 2. Applicable in mediums of low abrasion.
Neoprene	1. Be of good elasticity, refractivity and abrasion resistance. 2. Be resistant to low acid, alkali and salt but not for oxidation mediums.	Water, sewage and slurry. mineral serosity of low abrasion.
Polyurethane	1. Be of good abrasion resistability (equal to 10 times of caoutchouc). 2. Not be perfect in acid/alkali resistance. 3. Can't be used for water mixed with organic impregnants.	Applicable in mineral serosity. slurry and coal slurry of high abrasion.

MM	XXX	X	X	X	X	X	X	X	X	X	X	X	X
Size	DN10 to DN 3000 refer Table 12												
Body	Mild Steel											M	
Material	SS 304											T	
	SS 316											S	
Liner	PTFE											T	
	PFA											F	
	F46											E	
	Neoprene											R	
Material	Polyurathene											P	
Electrode	SS 316 (0Cr18Ni12Mo2Ti)											S	
	Hastalloy B											B	
	Hastalloy C											H	
	Titanium											N	
	Platinum Iridium											P	
	Tantalum											T	
	SS covered with Tungstine											K	
Process	MS Flange											M	
	SS 304 Flange											F	
	SS 316 Flange											G	
	TC end (SS 316)											T	
Connection	Wafer end											W	
Pressure	6 bar											B	
	10 bar											N	
	40 bar											P	
	60 bar											M	
Rating	320 bar											H	
Flange	# 150											1	
	PN 10 / 16											2	
	PN 40											3	
	TC 40 mm											4	
Class	TC 50 mm											5	
Mounting	In Line											1	
	Insertion											2	
Structure	Integral											1	
	Remote											2	
	Integral + Remote											3	
	Remote Submersible Type											4	
	Integral Ex-proof											5	
	Remote Ex-proof											6	
Cable length													
Calibrated range													
Power Supply	220 VAC 50 Hz											1	
	24 VDC											2	
Output	Flow volume 4-20 mA DC / Pulse											A	
	Flow volume 4-20 mA DC / RS 232 communication											B	
	Flow volume 4-20 mA DC / RS 485 communication											C	
	Flow volume HART output / with communication											D	

Line Size (mm)	Flow Range(m ³ /h) at 0.3 ~ 10 m/s
10	0.06 ~ 2.00
15	0.20 ~ 6.40
20	0.34 ~ 11.3
25	0.53 ~ 17.7
40	1.40 ~ 45.2
50	2.00 ~ 70.7
65	3.58 ~ 119
80	5.43 ~ 181
100	8.48 ~ 282
150	19.08 ~ 636
200	33.9 ~ 1131
250	53.0 ~ 1767
300	76.3 ~ 2544
350	103.9 ~ 3463
400	135.7 ~ 4524
450	171.7 ~ 5726
500	212.0 ~ 7069
600	305 ~ 10179
700	415 ~ 13854
800	542 ~ 18095
900	687 ~ 22902
1000	848 ~ 28274



Installation Diagram

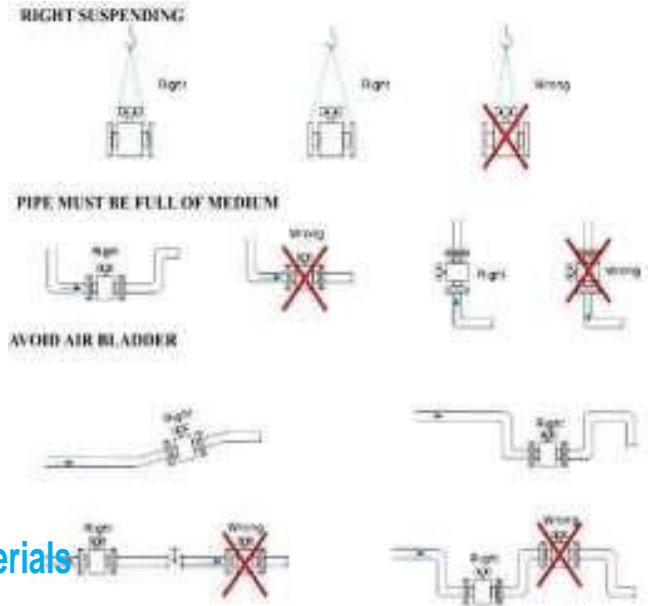


Table 2: Main performances of the electrode materials

Electrode Materials	Applications
0Cr18Ni12M02Ti	Applicable in water, sewage and corrosive mediums. Widely used in industries of petrol, chemistry, carbamide, etc.
Stainless steel covered with tungsten	Applicable in mediums of no corrosive and low abrasion.
Hastelloy B (HB)	Having strong resistance to hydrochloric acid of any consistence which is below boiling point. Also resistable able against vitriol, phosphate, hydrofluorfluoric acid, organic acid etc. which are oxidable acid, alkali and non-oxidable salt.
Hastelloy C (HC)	BE resistant to oxidable acid such as nitric acid, mixed acid as well as oxidable salt such as Fe ⁺⁺⁺ , Cu ⁺⁺ and seawater.
Titanium (Ti)	Applicable in seawater, chloride, hypochlorite salt, oxidable acid, organic acid, alkali, etc.
Tantalum (Ta)	Having strong resistance to corrosive mediums that is similar with glass. Almost applicable in all chemical mediums except for hydrofluoric acid, oleum and alkali.
Platinum-iridium	Almost be applicable in all chemical mediums except for aqua fortis, ammonium salt.

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