



Measuring & Beyond



MIAL INSTRUMENTS PVT. LTD.

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MEF 2100-MEF (B)2100
INLINE ELECTROMAGNETIC FLOW METER/BTU METER





MIAL MEF 2100/MEF(B)2100 Electromagnetic Flow/Btu Meter

DN15-DN3000mm / Flange Connection



Electromagnetic flow meter works on Faraday's law of electromagnetic induction. Electromagnetic flow meter is a velocity flow measurement device which measures volume flow of conductive liquids. This flow meter consists a flow sensor and transmitter. It can measure the flow of liquids, pastes, and slurries in water, wastewater, chemical, fertilizer, dairy, food, beverage, pharmaceutical, medical, petrochemical, iron, steel, paper, mining, and agricultural industries etc

Benefit

- ◆ Medium temperature can be -20°C~120°C.
- ◆ Integrated verification, diagnostic function and empty pipe detection.
- ◆ Bidirectional flow measuring capability (Modbus RTU RS485)
- ◆ Built-in reference electrodes, no need to connect ground ring.
- ◆ Dual frequency excitation and stable zero point.
- ◆ Precision coil winding technology, makes magnetic field more uniform.
- ◆ High protection grade, IP65, IP68
- ◆ No moving parts, no pressure loss.
- ◆ High accuracy: $\pm 0.5\%$ of reading velocity $> 0.5\text{m/s}$.



Standard Specification

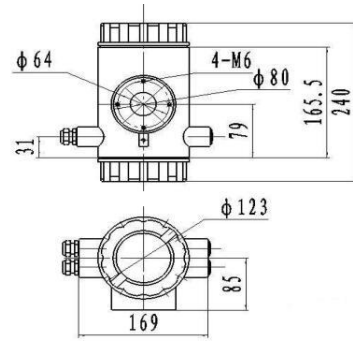
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|-----------------------|--|---|---|
| ● Size | : DN15-DN3000mm (1/2"~120") | ● Nominal Pressure | : 1.6 MPa (DN15-DN3000) |
| ● Accuracy | : $\pm 0.5\%$ of reading Velocity $> 0.5\text{ m/s}$ | ● Frequency Output | : 1~5000 Hz |
| ● Conductivity | : Normal liquid $> 5\ \mu\text{S/cm}$,
DI water $> 20\ \mu\text{S/cm}$ | ● Language | : English |
| ● Protection Grade | : IP65, IP68 | ● Flange Standard | : ANSI Class 150
ANSI Class 300 (Optional) |
| ● Electrode | : SS316L | ● Exciting Current | : 250mA |
| ● Power Supply | : 24V DC | ● Exciting Frequency | : 3.12Hz |
| ● Power Consumption | : $< 20\text{W}$ | ● Material | |
| ● Communication | : RS485/Modbus RTU. | Measuring Tube | : Stainless Steel 304 |
| ● Display | : LC Display, 128X128mm
Three lines
4 push buttons (MEF(B) 2100 - 3 buttons) | Flange | : Carbon Steel (standard)
: Stainless Steel 304 (optional)
: Stainless Steel 316 (optional) |
| ● Ambient Temperature | : -20°C~60°C | ● Straight Pipe | : Inlet Path $\geq 10\text{D}$ Outlet Path $\geq 5\text{D}$ |
| ● Relative Humidity | : 5%~95% | ● Signal Output | : 4~20 mA, Pulse |
| ● Liner Material | : PTFE (-20°C~120°C, DN15-DN1600) | ● Approvals | : CE |
| ● Velocity | : 0.1 m/s ~ 15 m/s | ● Meter supplies with factory calibration certificate | |
| ● Explosion-proof | : Exd IIB T6 Gb (Optional) | | |



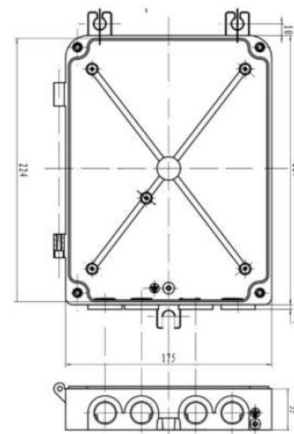
Transmitter Dimensions



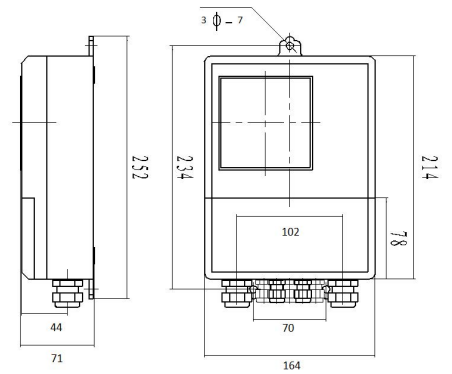
Integral



Remote



Btu Calculator



Selection Table electromagnetic flow meter

DN15-DN3000mm / Flange Connection

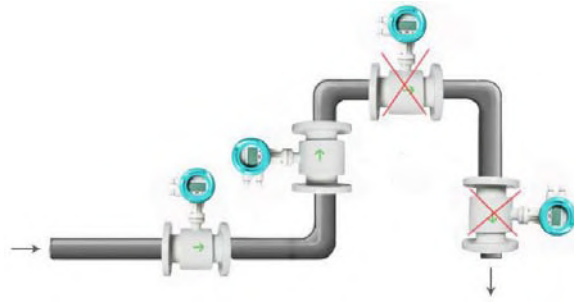
Model	MEF2100 DN150-S2-P3-L1-E1-K1-F1-D1-G1-C4-F1									
Caliber	DN15-DN3000									
Structure	Integrated	S1								
	Seperated	S2								
Nominal Pressure										
	1.6MPa	P3								
	4.0MPa	P4								
Liner Material	PTFE		L1							
	PFA		L2							
	F46		L3							
	Neoprene		L4							
	Polyurethane		L5							
Electrode Material	Stainless steel 316L		E1							
	Hastelloy B		E2							
	Hastelloy C		E3							
	Titanium		E4							
	Platinum-iridium		E5							
	Tantalum		E6							
Shell Material	Carbon Steel				K1					
	Stainless steel 304				K2					
	Stainless steel 316L				K3					
Flange Standard	ANSI 150#				F1					
Power Supply	24 VDC				D1					
Signal Output	4~20 mA				G1					
	Pulse				G5					
Communication	Modbus				C4					
Protection Grade	IP65				F1					
	IP68				F2					

Partes Pictures

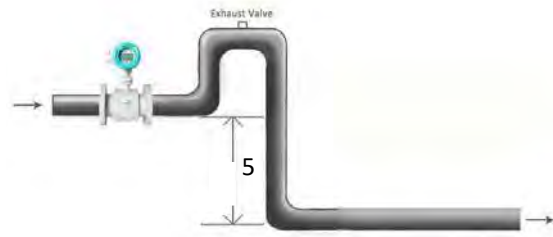




Installation Direction



Install at the lowest point vertical upward direction
 Don't install at the highest point of vertical downward direction



Install exhaust valve at the downstream of flow meter when the drop is more than 5 m



Install at the lowest point when used in open drain pipe



Need 10D of upstream and 5D of downstream



Don't install it at the entrance of the pump, install it at the exit of the pump



install at the rising direction

Electrode Property

SS316L	Applicable in water, sewage and corrosive mediums. Widely used in industries of petrol, chemistry, carbamide, etc
Stainless Steel Covered with tungsten carbide	Applicable in mediums of no corrosive and low abrasion.
Hastelloy B	Having strong resistance to hydrochloric acid of any consistency which is below boiling point. Also resistant against vitriol, phosphate, hydrofluoric acid, organic acid etc, which are oxidizable acid, alkali and non-oxidizable salt.
Hastelloy C	Resistant to oxidizable acid such as nitric acid, mixed acid as well as oxidizable salt such as Fe ⁺⁺⁺ , Cu ⁺⁺ and sea water
Titanium	Applicable in seawater, and kinds of chloride, hypochlorite salt, oxidizable acid (including fuming nitric acid), organic acid, alkali etc. Not resistant to a pure reducing acid (such as sulphuric acid, hydrochloric acid) corrosion. Acid contains anti oxidant (such as Fe ⁺⁺⁺ , Cu ⁺⁺) will greatly reduce corrosion.
Tantalum	Having strong resistance to corrosive mediums that is similar with glass. Almost applicable in all chemical mediums, except for hydrofluoric acid, petroleum and alkali.
Platinum-iridium	Almost applicable in all chemical mediums except for aqua fortis, ammonium salt.

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