

ELECTROMAGNETIC FLOWMETERS/CONTROLLERS

MEMF- SERIES

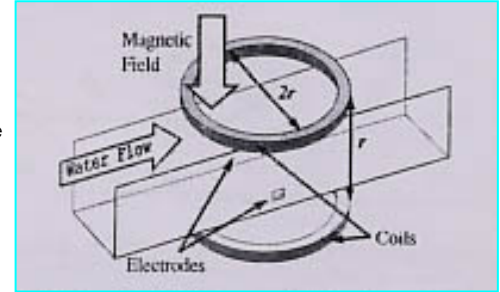
MEMM series of flowmeter/controllers are available in more than 100 different modes, virtually offering solutions to flow measurement/control for any liquid (preferably electrically conductive) in varied flow range i.e. 1.0 micro litre to 100.0 kilo litre per minutes. These flow meters are offered in material like SS-316 (ceramic/Teflon coating), polypropylene, derelin etc to make up with corrosion, thermodynamical and other pertinent physical parameters of fluid/gas under measurement. Because of above, these flow meters are first choice for any medical diagnostic, agro, foods, biomedical, petrochemical, automobile, organic/inorganic chemical, milk plant, sugar, textiles, beverages, water management/treatment, academic etc.

Operating Principle:

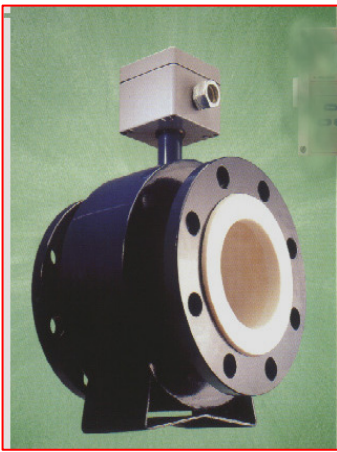
When a conductive flow passes transversely under the influence of a magnetic field, a proportional e.g. (E) in quadrature to flow & magnetic field direction develops. Synchronous amplifier & signal conditioner ensure a stable, consistent and accurate display by minimizing the effect of electrochemical voltage and quadrature voltage from signal. Appropriate amplification technique ensures accurate display on large flow range (step-down ratio too as much as 1:100). Proper lining of flow tube and right selection of flow electrode minimizes end short circuit effect and spurious generation of electrochemical voltage.

$$E = K_1 \cdot B \cdot F + K_2 \cdot f \cdot B \cdot r + E_{\text{electrochemical}}$$

f = magnetic field frequency (Hz)
F = flow rate (LPM), B = magnetic field



Schematic presentation of electromagnetic flowmeter



MEMF- 500



MEMF-050



MEMF-020



MEMF-010

Electrical/mechanical specification of Electromagnetic flowmeter

MEFC SERIES FLOW RANGE <100,000.0 LPM

model	Flow range (LPM)	Size(inch)	Accuracy	Repeatability	Flow tube-Liner	O.D.P.	leak rate	Output signal
MEFC-001	100..0	3/8	99.5	100	Ceramic/PP	2000	<1.8x10 ⁻⁸	0.0-5.0/12.0
MEFC-002	500.0	1.5	99.5	100	Ceramic/PP	2000	<1.8x10 ⁻⁸	0.0-5.0/12.0
MEFC-010	1000.0	2.0	99.5	100	Ceramic/PP	2000	<1.8x10 ⁻⁸	0.0-5.0/12.0
MEFC-020	2000.0	3.0	99.5	100	Ceramic/PP	2000	<1.8x10 ⁻⁸	0.0-5.0/12.0
MEFC-050	5000..0	4.0	99.5	100	Ceramic/PP	2000	<1.8x10 ⁻⁸	0.0-5.0/12.0
MEFC-100	10000.0	6.0	99.5	100	Ceramic/PP	2000	<1.8x10 ⁻⁸	0.0-5.0/12.0
MEFC-200	20000.0	8.0	99.5	100	Ceramic/PP	2000	<1.8x10 ⁻⁸	0.0-5.0/12.0
MEFC-500	50000.0	10.0	99.5	100	Ceramic/PP	2000	<1.8x10 ⁻⁸	0.0-5.0/12.0

ELECTROMAGNETIC FLOW METER CONTROLLER SPECIFICATIONS

Operating voltage 220 volts/28 volts D.C.
 Excitation frequency 2.5/7.5/15.0/25.0 Hz
 Accuracy error : 1.0 % of reading
 Repeatability 100 percent
 Response time 0.5 –1.1 seconds
 Interface Signal 0.0-12.0 volts D.C.(proportional to flow range)
 Flow range 10.0 LPM – 100.0 kilo LPM
 Step down ratio 1:50(1:100)
 Flow tube material SS-316/Brass/DERELIN with option of flange coupling
 Electrode material SS-316/Has-alloy
 Control option Flow rate/totalization control against set point
 Multi flow synchronized control (interactively), RS-232 interface
 Display 3½ & 4½ digit red glow LED/LCD display
 Controller size 48x48x96, 72x72x96, 96x96x192 mm



Electromagnetic flow controller- MEMC-0500

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