



GREEN FLOWTECH ENGINEERING

ELECTROMAGNETIC FLOW METER



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ELECTROMAGNETIC FLOW METER

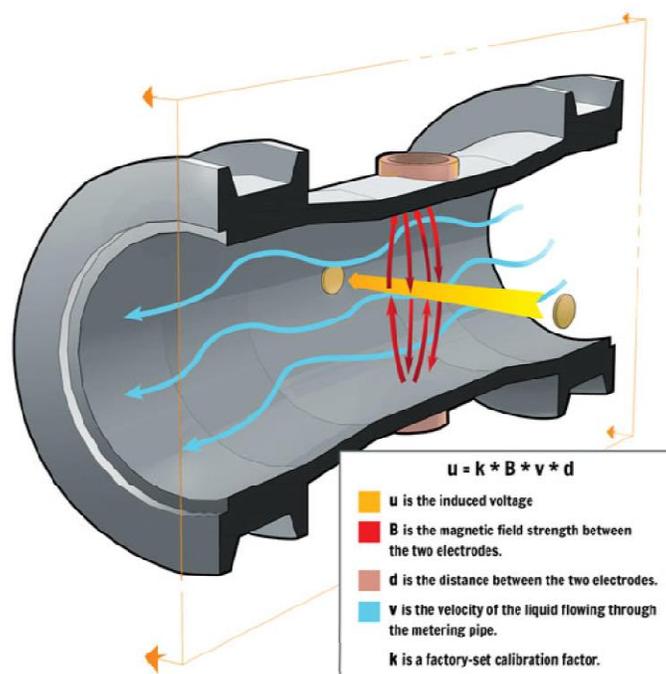
PRODUCT DESCRIPTION

Electromagnetic flow meter is highly intelligent, Maintenance Free Low cost, highly stable reliable and precise flow instrument which based on advanced technology. Electromagnetic Flow meter based on '**FARADAY'S LAW**' of electromagnetic induction is independent of viscosity, density, pressure and temperature of the flowing media and measurements is a true volumetric flow and output is directly proportional to flow. It is widely used in petroleum, chemical industry, Steel, Food, and Electricity, Paper making, Water conservancy, Water Supply and Drainage, Water Resource Management and etc.

PRINCIPLE

Electromagnetic flow meter is based on the Faraday's Law of Electromagnetic Induction. The conductive liquid cut the magnetic line and cause induced electromotive force when do the direction perpendicular to the magnetic field lines in the alternating magnetic field along the measuring pipe. So we install a pair of electrodes on the pipe wall which orthogonal with sounding pipe axis and magnetic line. The electrodes can detect the induced electromotive force. It should be directly proportional with the flow.

Then the liquid's flow will be exported by the detection. As shown in the graph below , the induces electromotive force signal will be converted to standard DC current signal (0-10) mA,(4-20)mA or (0-5)KHz Frequency output which is directly proportional with flow signal by amplification of converter. So the results of flow measurements come out.



ELECTROMAGNETIC FLOW METER

TECHNICAL SPECIFICATION

Electromagnetic Flow meter						
	STANDARD TYPE		REMOTE TYPE		INSERTION TYPE	
	Accuracy		± 0.5 % and ± 0.2 %			
	Repeatability		±0.2% of Span or Better			
Electrode Q'ty		2pcs (Standard), 3pcs or others (Option)				
Min. Conductivity		5 Micro Simens				
Measuring range		0.2-12m/sec, Bi-direction				
Diameter (mm)		10-3000 mm				
Working pressure (kg/cm2)		12,18,26,42				
Working Temperature(°C)		Please consult with us if you order high pressure				
Working Temperature(°C)		Standard version: 0- 120°C (Choice of lining material)		0-150°C (0-180°C with cooling pin) (Choice of lining material)		
Material	Body	MS,SS 304, SS 316,SS 316L				
	Electrode	SS 316L, Titanium, Tantalum, Hastelloy, , Platinum, SS Duplex				
	Measuring Tube	SS 304, SS 316, SS 316L				
	Lining	Hard Rubber, PTFE, Polyurethane, PFA, Polypropylene				
Flange	DIN, ANSI, BS					
Meter Protection Level		IP67				
Ambient Temperature		-20- 60°C				
Transmitting	Power: 220 VAC, 24 VDC, 3.6 V Lithium Battery					
	Output: Standard output 4-20 mA, RS485 Option: RS232, HART					
	Display: LCD-2 Line LCD					
	Unit: selectable of Engineering Standard m3, ft3, liter, Gallon,					
	Power consumption: below 20VA					
Enclosure: weather proof IP67						

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FLOW RANGES

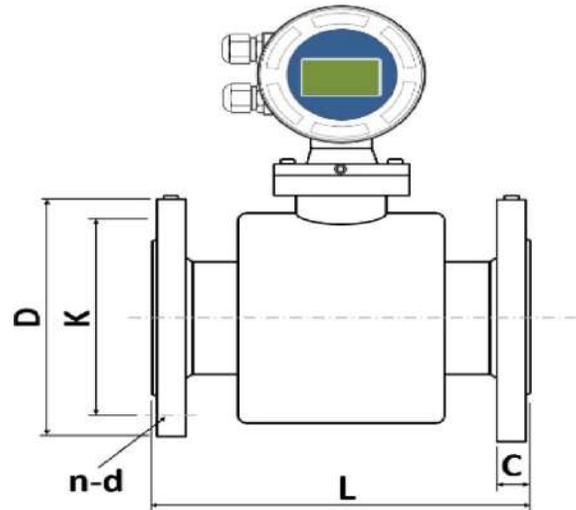
Velocity range - 0.5 m/sec for Minimum and 10 m/sec for Maximum

Meter Size		MIN. FLOW RANGE	MAX. FLOW RANGE	FLOW RATE MONOGRAPH
DN		0-0.5 m/s	0-10 m/s	
mm	Inch	m ³ /h	m ³ /h	
10	3/8"	0-0.14	0-2.8	
15	1/2"	0-0.32	0-6.4	
20	3/4"	0-0.57	0-11	
25	1"	0-0.88	0-18	
32	1 1/4"	0-1.5	0-29	
40	1 1/2"	0-2.3	0-45	
50	2"	0-3.5	0-71	
65	2 1/2"	0-6.0	0-119	
80	3"	0-9.1	0-181	
100	4"	0-14	0-283	
125	5"	0-22	0-442	
150	6"	0-32	0-636	
200	8"	0-57	0-1130	
250	10"	0-88	0-1770	
300	12"	0-127	0-2550	
350	14"	0-173	0-3470	
400	16"	0-226	0-4530	
450	18"	0-286	0-5730	
500	20"	0-353	0-7070	
600	24"	0-509	0-10180	
700	28"	0-693	0-13860	
800	32"	0-905	0-18100	
900	36"	0-1150	0-22900	
1000	40"	0-1420	0-28280	
1100	44"	Please request us if need.		
1200	48"			
1400	56"			
1600	64"			
1800	72"			
2000	80"			
2200	88"			
2400	96"			

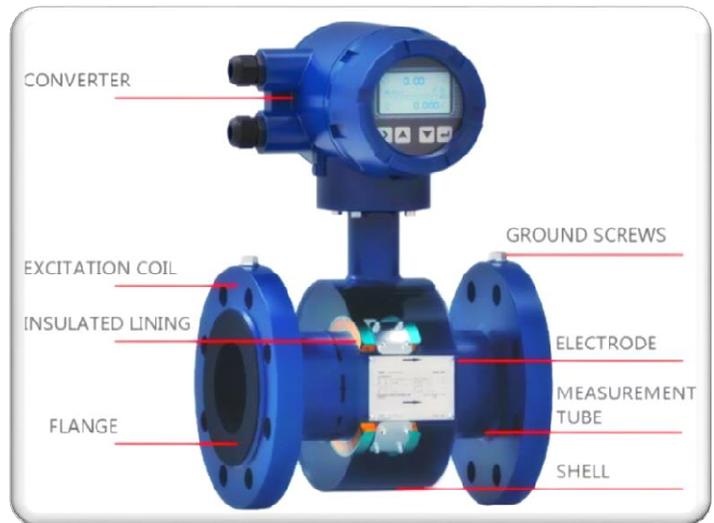
ELECTROMAGNETIC FLOW METER

DIMENSIONS OF METER AND CONNECTION

Meter Size (DN)		Length	Dimensions (mm)			
			ANSI CL150			
Inch	mm	L	D	K	C	n-d
3/8	10	200	89	60.5	11.5	4-15.7
1/2	15	200	89	60.5	11.5	4-15.7
3/4	20	200	98	70	13	4-15.7
1	25	200	108	79.5	14.5	4-15.7
1 1/4	32	200	117	89	16	4-15.7
1 1/2	40	200	127	98.5	17.5	4-15.7
2	50	200	152	120.5	19.5	4-19
2 1/2	65	200	178	139.5	22.5	4-19
3	80	250	190	152.5	24	4-19
4	100	250	228	190.5	24	8-19
5	125	250	254	216	24	8-22.4
6	150	300	279	241.5	25.5	8-22.4
8	200	350	343	298.5	28.5	8-22.4
10	250	400	406	362	30.5	12-25.4
12	300	400	482	432	32	12-25.4
14	350	400	533	476	35.5	12-28.4
16	400	450	597	540	37	16-28.4
20	500	450	698	635	43	20-31.8



FLOWMETER CONSTRUCTION



ELECTROMAGNETIC FLOW METER

ORDERING CODE – EMFM-GFE

MAG. FLOW METER SELECTION GUIDE			
SR.NO	SELECTION	SUFFIX CODES	DESCRIPTION
SELECTION CODE OF FLOW METER			
1	Model		
		EMFM - GFE	
2	Flow meter Style		
		MS	Standard
		MR	Remote
		MI	Insertion
3	Meter Size		
		DN(10,15,20,50..... 2700)	Specify
4	Flange Standard		
		F1	Flange ANSI 150#
		F2	Flange ANSI 300#
		F3	Flange ANSI 600#
		F4	Flange DIN PN 10
		F5	Flange DIN PN 16
		F6	Flange DIN PN 25
		F7	Flange DIN PN 40
		F8	Flange BS 10 Table D
		F9	Flange BS 10 Table E
		F10	Flange BS 10 Table H
		F11	Wafer
		F12	SMS
		F13	Tri- Clamp
		F14	BSP Thread - end
	F15	Any other Specify	
5	Flange Material		
		M	MS
		S4	SS304
		S6	SS316
		O	Other

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6	Measuring Tube		
		C	CS
		S4	SS304
		S6	SS316
		O	Other
7	Coil housing		
		M	MS
		S4	SS304
		S6	SS316
		O	Other
8	Electrode Material		
		S6	SS316
		SL6	SS316L
		HC	Hastelloy C
		TI	Titanium
		TA	Tantalum
		PL	Platinum
		SSD	SS Duplex
9	Lining		
		1	Hard Rubber
		2	Neoprene
		3	PTFE
		4	Polyurethane
		5	PFA
		6	Polypropylene
		O	Other
10	Earthing Rings		
		E1	Standard
		E2	SS 316
		E3	SS 316L
		O	Other
11	Flow Sensor Protection Class		
		A	IP- 65
		B	IP- 67
		C	IP- 68
		D	Flame proof

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SELECTION CODE OF TRANSMITTER			
1	Transmitter Type		
		S100	Standard Version
		S200	High Performance Explosion Proof
		BT300	Battery Type Direct Mounting
		BT400	Battery Type With GPRS/GSM/CDMA
		RT100	Remote Surface Mounting
2	Mounting Construction		
		I	Integral Direct Mounting
		R1	Remote Mounting
		R2 R3	Surface Mounting 2" Pipe Mounting
3	Enclosure		
		A	IP 65
		B	Flame proof
4	Power Supply		
		P1	24 VDC
		P2	220 VAC
		P3	Battery operated
		P4	Solar operated
5	Standard output		
		O1	4-20 mA DC
		O2	Pulse
		O3	Frequency
		O4	4-20 mA DC + high low Relay
		O	Other
6	Communication		
		C1	No Communication
		C2	RS - 485
		C3	HART
		C4	GSM
		C5	GPS
		O	Other
7	Cables Length		
		C1	No Cable (Integral type)
		C2	Specify

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