



Magnetic Flow Meter Series

MFM01

Futuristic Technologies



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WORKING PRINCIPLE :

The working principle of a magnetic flow meter is based on Faraday’s law of electromagnetic induction. According to Faraday’s law, when the conductive fluid flows through a magnetic field of the sensor, an electromotive force proportional to the volume flow is generated between the pair of electrodes, which is perpendicular to the flow direction and the magnetic field. The amplitude of the electromotive force can be expressed as:

$$E = kBDv$$

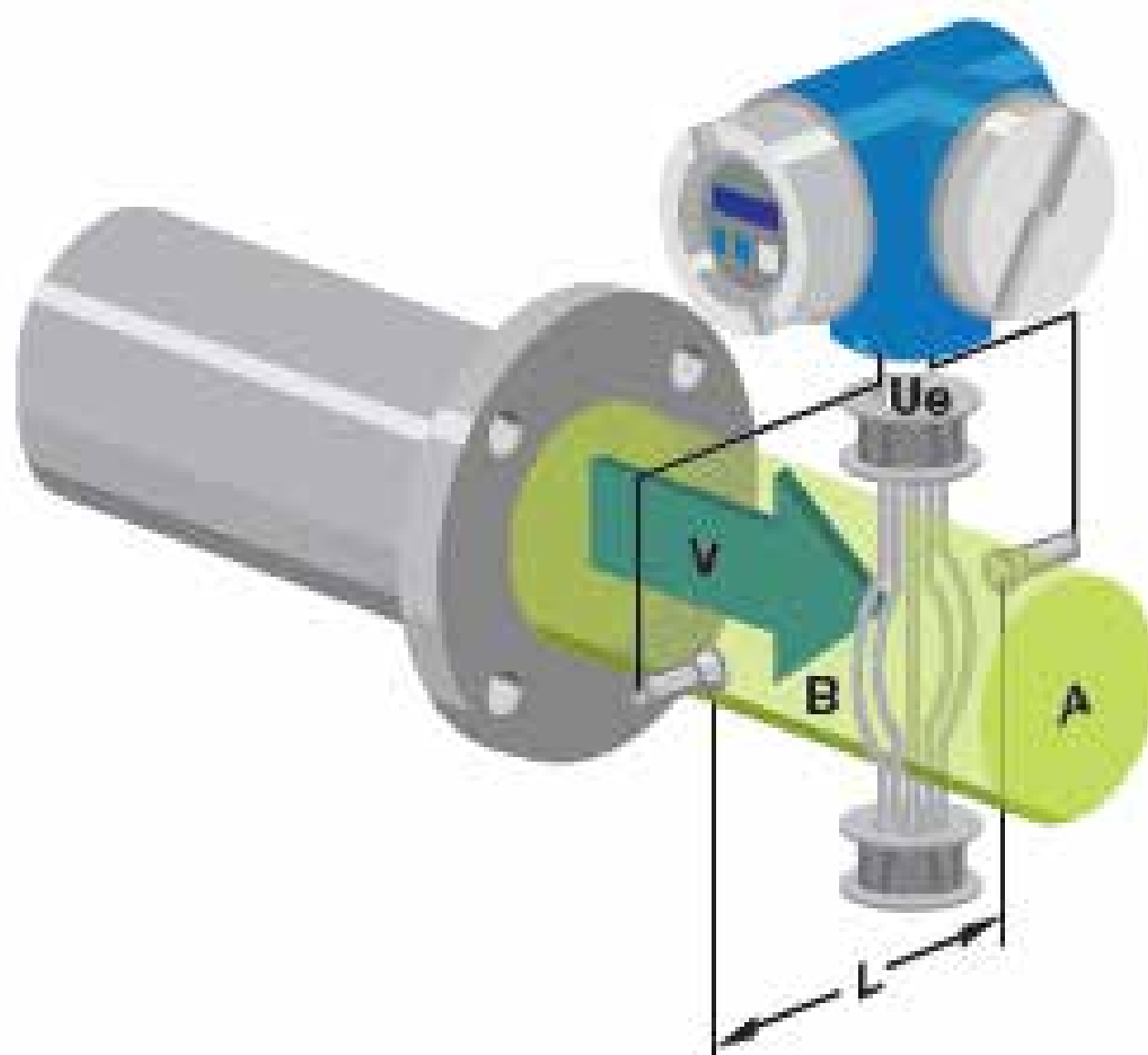
Where E: Induced electric potential,

K : Constant,

B : Magnetic flux density,

D : The inner diameter of the measuring Tube,

V : The average velocity of the fluid in the axial direction of the electrode cross - section inside the measuring tube.





FEATURES:

1. Measurement result will not be affected by change of density, viscosity, temperature, pressure and conductive rate
2. Product with good anti-corrosion and abrasion resistance performance
3. Full digital process, strong anti-interference performance, operating reliable with high accuracy and wide range of flow rate
4. Super low voltage EMI switch power supply, which could ensure fast response for voltage changes and good resistance on EMI
5. LCD Displays Flow Rate, Totaliser, Alarms, Analog output.
All Standard Engineering Units in m³.Litre, Gallon, ft³
6. Product is manufactured with SMD devices and SMT technology, which provides high reliability circuits.
7. With self checking and diagnosis function and IOT Ready-AMR Network.

Specifications

Parameter

Medium	Domestic water, industrial water, raw water, ground water, urban sewage, industrial waste water, Processed neutral pulp, pulp slurry, Chemicals etc.
Diameter	DN10~DN2000mm
Accuracy	±0.5%
Repeatability	±0.2% of Span
Medium temperature	< 180°C
Medium pressure (Kg/Cm ²)	10,16,25,40
Flow rate	0.3~10m/s
Electrode Material	SS316 Std., Hastalloy C, Titanium, Tantalum, Platinum, etc
Lining Material	PTFE, Rubber, Neoprene, PFA, HDPE, Polyurethane, CPVC etc
Flow Tube Material	SS304 Std, SS316
Coil House Material	Carbon steel, Stainless steel
Power supply	230VAC, 24VDC, Battery
Signal output	4~20mA, Pulse and Relay
Communication Interface	RS485, GSM/GPRS, HART, LORA
Display	LCD Display In Engg. Units
Protection proof	IP65; IP67, IP68
Flow Transmitter	Integral, Remote
Enclosure Material	Die Cast Aluminium
Electrical Connection	1/2" NPT
Work environment	Ambient temperature: -20~+60°C, Ambient humidity: 5%~90%
End Connection	Flange-end, Wafer, Tri-Clover etc.





FLOW TABLE :

Size (D)		m3/h		LPM		LPS		GPM	
mm	inch	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
10	3/8"	0.08	2.83	1.41	47.10	0.02	0.79	0.37	12.44
15	1/2"	0.19	6.36	3.18	106.03	0.05	1.77	0.84	28.01
20	3/4"	0.34	11.31	5.66	188.50	0.09	3.14	1.49	49.80
25	1"	0.53	17.67	8.84	294.50	0.15	4.91	2.33	77.81
32	1-1/4"	0.87	28.95	14.48	482.50	0.24	8.04	3.82	127.48
40	1-1/2"	1.36	45.24	22.63	754.00	0.38	12.57	5.98	199.21
50	2"	2.12	70.69	35.35	1178.17	0.59	19.64	9.34	311.27
65	2-1/2"	3.58	119.50	59.73	1991.67	1.00	33.19	15.78	526.20
80	3"	5.43	181.00	90.48	3016.67	1.51	50.28	23.91	797.01
100	4"	8.48	282.70	141.38	4711.67	2.36	78.53	37.35	1244.83
125	5"	13.26	441.80	221.00	7363.33	3.68	122.72	58.39	1945.40
150	6"	19.09	636.20	318.17	10603.33	5.30	176.72	84.06	2801.41
200	8"	33.93	1131.00	565.50	18850.00	9.43	314.17	149.41	4980.18
250	10"	53.02	1767.00	883.67	29450.00	14.73	490.83	233.47	7780.71
300	12"	76.35	2545.00	1272.50	42416.67	21.21	706.94	336.20	11206.52
350	14"	92.37	3079.00	1539.50	51316.67	25.66	855.28	406.74	13557.90
400	16"	135.80	4524.00	2263.33	75400.00	37.72	1256.67	597.97	19920.74
450	18"	171.80	5726.00	2863.33	95433.33	47.72	1590.56	756.49	25213.56
500	20"	212.10	7069.00	3535.00	117816.67	58.92	1963.61	933.95	31127.26
600	24"	305.40	10180.00	5090.00	169666.67	84.83	2827.78	1344.78	44826.07
700	28"	415.00	13850.00	6916.67	230833.33	115.28	3847.22	1827.39	60986.35
800	32"	542.00	18100.00	9033.33	301666.67	150.56	5027.78	2386.61	79700.57
900	36"	662.00	22900.00	11033.33	381666.67	183.89	6361.11	2915.02	100836.64
1000	40"	848.00	28260.00	14133.33	471000.00	235.56	7850.00	3734.04	124438.57



ORDERING CODE : MFM01:

MFM01														Description
Sensor Size	XXXX													DN10 -DN2000 (mm) 10,15,20,25,40,50,65,80,100,125,150, 200,250,300,350,400,450,500,600,700, 800,900,1000,1200,1400,1600,1800, 2000..
End Connection Type	M1													Flange -end
	M2													Wafer
	M3													Tri-Clover / SMS
	M4													Insertion
	M5													Any Other..
Nominal Pressure Rating	N1													5 Kg/cm2
	N2													10 Kg/cm2
	N3													<40 Kg/Cm2
	N4													Any Other..
Lining Material	L1													PTFE
	L2													Rubber
	L3													PFA
	L4													Any Other..
Electrode Material	E1													SS316
	E2													SS316L
	E3													Hastelloy C
	E4													Any Other..
Coil Housing Material	H1													CS
	H2													SS304
	H3													SS316
	H4													Any Other..
Flow Tube Material	T1													SS304
	T2													SS316
	T3													Any Other..
Flange Material	F1													CS
	F2													SS304
	F3													SS316
	F4													Any Other..
Grounding Rings Material	G1													Not Applicable
	G2													SS316
	G3													SS316L
	G4													Any Other..
Flow Transmitter	I													Integral
	R													Remote
Power Supply	P1													85-265V AC
	P2													24V DC
	P3													3.6V lithium battery
	P4													Any Other..
Signal Output	S1													4-20mA DC, Pulse & 2 Relays (Alarm)
	S2													Any Other..
Communication Protocol	C1													Modbus RS485
	C2													HART
	C3													GSM/GPRS
	C4													Any Other..
Enclosure Class	A													IP 65
	B													IP 67
	C													IP 68
Approval	N													Not Applicable
	F													Flame Proof (FLP)