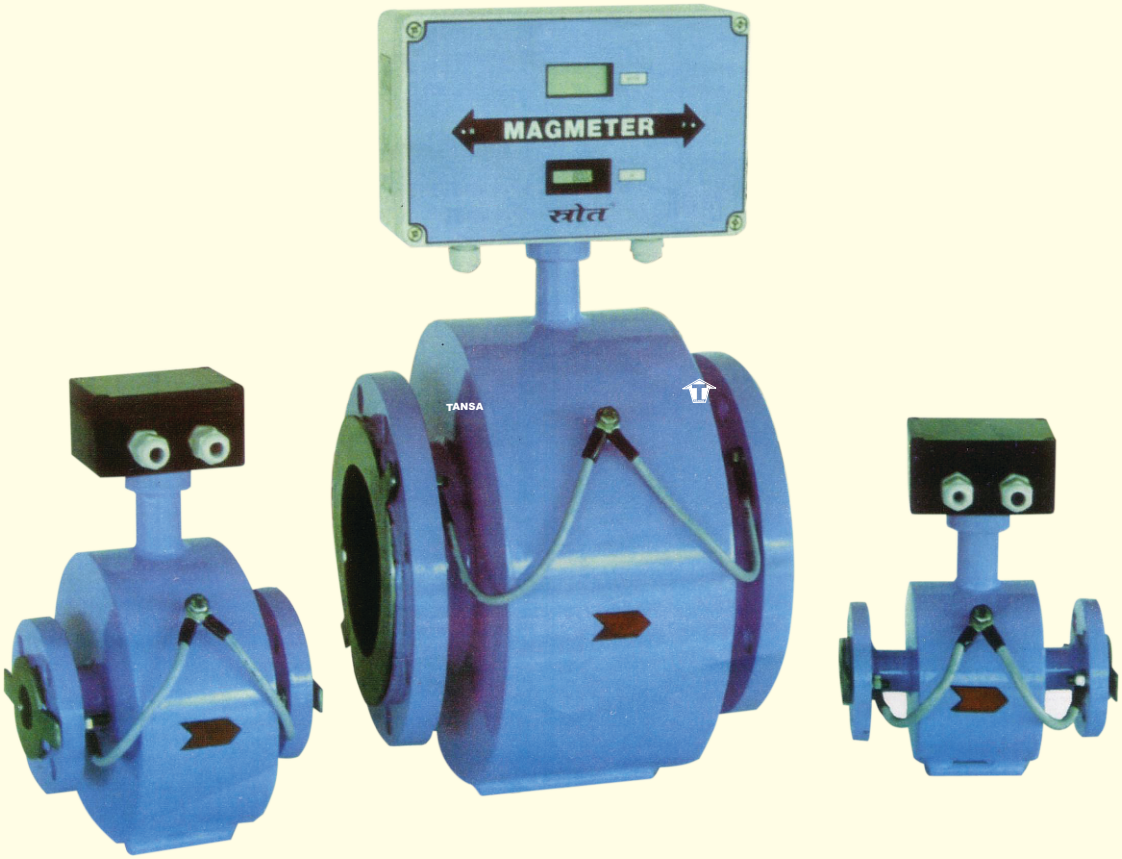
MAGMETER

Magnetic Flow Meter

INTRODUCTION :

The electromagnetic flow meter virtually approaches the idea flow meter suitable for wide range of liquid flow measurements even with very low conductivities. The meter offers no resistance to flow hence the pressure drop is almost negligible. The measurement benig based on Faraday's law of visocity, density, pressure & temperature of flowing medium. The mesurement is not affected by solid impurities as long as the min .conductivity of 5 cm is available. It is a true volumetrical flow measurement. We offer various materials of construction for meter lining & electrodes to cover majority of corrosive liquids.

The Technique called as 'pulsed DC' is used which offers very high zero stability & accuracy of measurement. The standard current output of 4-20 mA DC is provided which is linearly proportional to volumetric flow rate & additional frequency output is also provided.



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We also manufacture Glass Tube, Purge type,Acrylic body, by - Pass Rotameters & Orifice Assy.

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MAGNETIC FLOW METER

The method of flow measurement based on Faraday's law of electromagnetic induction. When a conductor moves within a magnetic field, voltage is induced in it which is proportional to the velocity of conductor.
in this case the conductor is flowing media .the equation is as below

E=B.v.d.

Where ,
E = Induced voltage [proportional to velocity]
B = Magnetic flux density
v = mean velocity of the media
d = Distance between the sensing electrodes

For a given size of flow tube & compatible amplifier the flux density 'b' is constant the distance the electrodes is constant. Hence, the induced voltage is proportional to the velocity of the flowing media .Thus the unit can be calibrated in terms of volumetric flow rate by knowing the cross sectional area of the tube

PRINCIPAL ADVANTAGES:

1. Use of pulsed DC magnetization & auto zero technique offers excellent long term zero stability .
2. Measurement is independent of velocity profile across the diameter of the pipe-line. .
3. Measurement result are independent of density , viscosity, pressure temperature, soli-impurities & conductivity variation [above 5 siemens] .
4. No additional pressure drop across the meter which relieves the process designer while sizing his pumping requirement. Simple to install as no special precautions of straight pipe lengths required. .
5. Compatible with virtually all corrosive/ non- corrosive liquids .
6. Protection class offered Ip65. .
7. Higher ratio of return on investment. .
8. Bath-tub curve remains flatter for very long period.

APPLICATION: .

This meter is more suitable with those fluids which present difficulties in handling. Fluids such as effluents, slurries pulps, brine and other highly corrosive liquids, acids and bases, fementerwash, molasses etc. .
Following industries can find lot of application of this flow measurement technique.

Effluent treatment plants	Wage treatment plants
Water supply schemes	Suger industries & Distilleries
Steel & Aluminium	Petrochemicals /fertilizers
Chemical/Pharmaceutical	Pulp & paper
Food & Drugs	Petrochemicals & Fertilizers

FLOW RATE TABLE: Flow rate at v =1m/s

DN	M3/Hr.	Lpm	LPS	DN	M3/Hr.	Lpm	LPS
10	0.282	4.712	0.078	80	18.095	301.592	5.026
15	0.636	10.602	0.176	100	28.274	471.238	7.853
20	1.130	18.849	0.314	125	44.178	736.310	12.271
25	1.767	29.452	0.490	150	63.617	1060.287	17.671
32	2.895	48.254	0.804	200	113.097	1884.955	31.415
40	4.523	75.398	1.256	250	176.741	2945.243	49.087
50	7.068	117.809	1.963	300	254.469	4241.150	70.685
65	11.945	199.098	3.318	350	346.356	5772.608	96.210

MAGANATIC FLOW-METER

SPECIFICATIONS

METERING TUBE :

1. Meter size : DN 10 to DN 350 for higher size consult factory up to Dn 80 - PN 40
2. Media Pressure : up to DN-100 to DN 200- Pn16 DN-250 to DN 350-PN 10
3. Media temperature : PTEF Liners 0-150° c max. For other Liners 0-90° c max.
4. Ambient Temperature Range : 0-50° c
5. Materials : pipe : SS 316 [non magnetic]
   Electrode : SS 316 / Hastelloy C /Pt /Ta /Ti.
   Liner : PTFE / Neoprene / soft Rubber /Hard Rubber.
   Flanges : carbon steel / SS 316 / SS 316 L / SS 304.
   Coil Housing : Carbon steel / SS, Epoxy Painted.
6. Flanges Standard : ANSI / DIN /BS/ SMS/ Triclamp
7. Power Supply to filed coils : Pulsed DC

TRANSMITTER

1. Type : Integral mounted [standard] Remote Mounted [on request]
2. Min. Media Conductivity : 5 s /cm [for lower conductivities consult factory]
3. Signal Output : 4-20 mA dc isolated in max. 600 Ohms
   Additional option : Pulsed output with adjustable count rate from 1 count / hr to 10 counts / Hr.[open collector with 100 mA / 24 dc capacity]
3. Singal output (cont.) Or Frequency output : 0-10 KK$_z$ prop.To 0-100% flow rate [open collector with 10 mA/24 v dc max.]
4. Coil Excitation Frequency : selectable by links
   a) 25Hz
   b) 12.5Hz
   c) 6.25Hz
   d) 3.15Hz
5. Local Display : a) 31/2 digit LCD calibrated in % or engineering units
   b) 8 digit LCD non resettable type for totalised quantity.
6. flow Velocity Range : 0.1 m/s to 10 m/s
7. Accuracy : ±0.5% of reading [at ref. Conditions] between 100%to 10% of calibrated range
   ±0.75% of reading for flow rate between 10% to 5% [refer accuracy graf]

Meter Dimensions [mm]

DN[mm]	A	B	C	D	E
10,15,20	60	180	115	200	76
25,32,	80	19	150	200	96
40,50	115	232	220	20	102
65,80	122	239	233	200	102
100 ,125	170	287	330	250	132
150	180	297	350	300	172
200	235	352	460	350	207
250	290	407	570	400	242
300	335	452	660	500	292
350	355	467	690	550	292

Flow Meter Size

MS 01:DN10	MS 09:DN80
MS 02:DN15	Ms 10 :Dn100
MS 03:DN20	MS 11:DN125
MS 04:DN25	MS 12:DN150
MS 05:DN32	MS 13:DN200
MS 06:DN40	MS 14:DN 250
MS 07: Dn50	MS 15:DN 300
MS 08:DN 65	MS 16:DN 350

Liner Material

LM 01 : Teflon[PTFE]
LM 02 : Neoprene
LM 03 : Soft Rubber
LM 04 : Hard Rubber
LM 05 : Any other

Electrode Material

EM 01 : Stainless steel 316
EM 02 : Hastelloy C
EM 03 : Tantalum
EM 04 : Titanium
EM 05 : Platinum
EM 06 : Any other

Liner Material

LM 01 : Teflon[PTFE]
LM 02 : Neoprene
LM 03 : Soft Rubber
LM 04 : Hard Rubber
LM 05 : Any other

Flange / End Connection Standards

FS 01 : DIN Pn40
FS 02 : DIN PN 16
FS 03 : DINPN 10
FS 04 : ANSI 300
FS 05 : ANSI 150
FS 06 : SMS
FS 07 : Tri-clamp
FS 08 : Any other

Flange /End Connection Material

FM 01 : Carbon steel
FM 02 : Stainless steel 304
FM 03 : Stainless steel 316
FM 04 : Stainless steel 3161

Flow Transmitter

FT 01 : Integral [AL. Diecast]
FT 02 : Remote [AL. Diecast]

Power Supply

01 : 110 + 10%V AC, 50 Hz
02 : 230 + 10%v AC ,50 Hz
03 : 24 Vdc+10%

8.Ref.conditions : power supply nominal.temprature 27° c+2° c
9. Repeatability : ±0.2 % of reading
10. Ambient temperature Drift : 0.50°C
11. Tempreature drift : ±0.015% per c max.
12. Material of Housing : Al. Die cast / ss 304 .
13. Power supply : 230 v ac/110v ac 50 Hz/24vdc.
14. Damping : Adjustable from 5 to 30 secs.
15. Cable Entries : 4 no. For remote amplier
    2 no. For integral amplier.
    ½ NPT/ ½ BSP/ pg4 [female] for Al. Diecast Housing
    3/4 ET for ss 304 Housing
16.Ingress Protection : IP-65

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We also manufacture Glass Tube, Purge type,Acrylic body, by - Pass Rotameters & Orifice Assy.