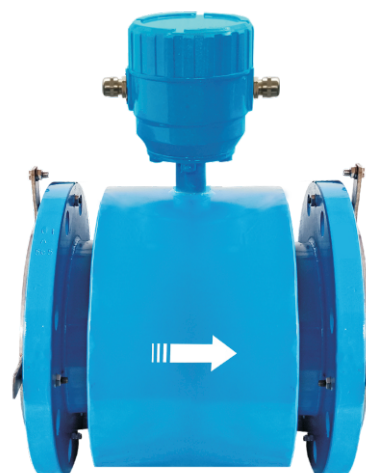


TWO WIRE ELECTROMAGNETIC FLOW METER

Features

- Full bore type
- Suitable for conductive liquids
- Two Wire system
- Empty Pipe Indication
- Material option depending upon Process Data
- Local Indication through LCD Display
- Maintenance free
- Simple & Cost Effective Construction



Description

Electronet series ELMAG® -TX22 are micro-controller based 2 wire full bore type electromagnetic flow transmitters specially used for various industrial applications. These flow transmitters accurately measure the flow rate of conductive liquids and slurries in closed pipes. Due to its simple and rigid design, the flow transmitter is an obstruction-less and maintenance-free instrument in place of conventional mechanical flow measuring device. The use of 'Pulsed DC' technology offers highest ability and better measuring accuracy in the form of electrical signal 4–20 mA DC linearly proportional to volumetric flow, The instrument is based on Faraday's law of electromagnetic induction. A magnetic field is generated by the instrument in the flow tube. The fluid flowing through this magnetic field generates a voltage that is proportional to the flow velocity and corresponding electrical output is provided with respect to ensuring voltage.

Technical Specifications

Media	Liquids (Conductive)
Line Size	15 NB to 200 NB
Electronics	Integral
Power Supply	24V DC
Power Consumption	40 mw
Conductivity	> 5 µs/cm
Viscosity	200 cp max
Excitation	Pulsed DC Coil
Type of Output	4 to 20mA DC, 4 to 20mA DC with HART
Display	LCD display – 5 Digit for Flow Rate and 8 Digit for Totalizer Flow
Engineering Unit	User Programmable (m ³ /hr by default)
Calibration Range	Wet Calibrated at IEC/ISO/EN17025 Accredited Calibration Laboratory.
Accuracy	< ± 0.5% of M.V. +(± 5mm /sec) for Velocity Range 0.3 m/s to 6 or 12 m/s
Flow Velocity Range	0.3 m/s to + 6 m/s
Linearity	+/- 0.5% of M.V.
Repeatability	+/- 0.2% of M.V.
Temperature Coefficient	+/- 0.1% per °C
Process Temperature	-20 to 85° C max for Rubber Lining & -20 to 220°C for PTFE Lining
Process Pressure	16 kg/cm ² max (Higher on request)

Material of construction	1) Lining – Neoprene / Ebonite Rubber, PFA, PTFE, PU, CERAMIC
	2) Flange – MS, CS, SS316, SS304 & PVC
	3) Electrode – SS316L, Hastelloy C, Platinum, Tantalum, Titanium
	4) Coil Housing – MS, SS304, SS316 & PVC
Isolation	1.4 KV between Input, Output and Power Supply
Response Time	10 Sec.
Electronic Protection Class	Field Mount Weather Proof IP-67
	Field Mount Weather Proof IP-68
Sensor / Flow Tube Protection class	Weather Proof IP-68
Process Connections	ANSI150 flanged, as per table B 16.5 (Other On Requirement)
Mounting	In-Line Horizontal / Vertical
Ambient Conditions	Temperature -20 to 75°C / Humidity 5 to 95% non condensing
Certification	CE

Assembly Overview

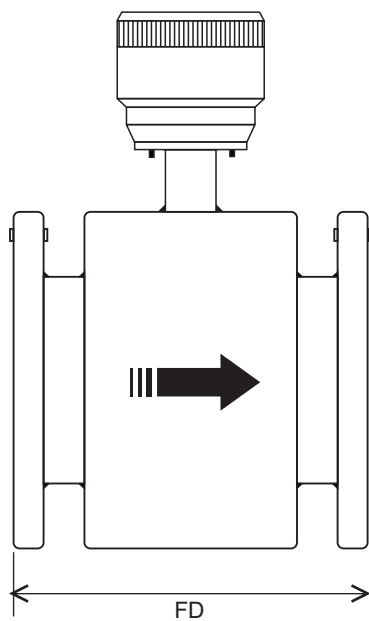


Fig. 1 Front View

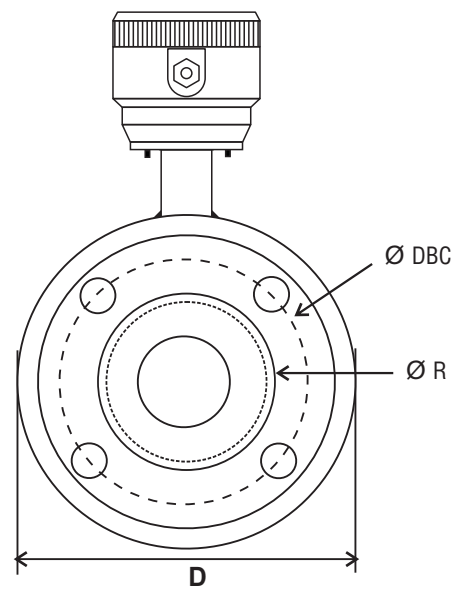


Fig. 2 Side View

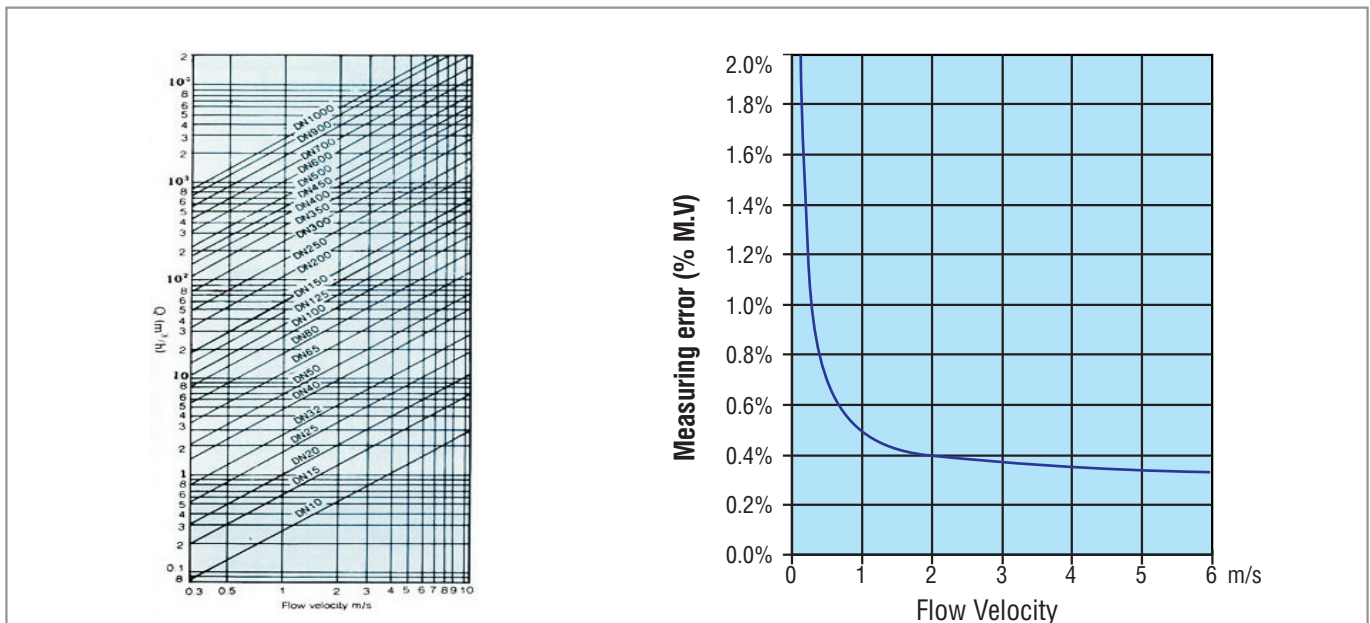
TABLE -1 : Dimensional Details (Flow Meter with ANSI 150 Flange)

Refer Drg. Fig.1 & 2

Line Size Inch	NB	Flange Diameter D (mm)	Diameter of Raised Face R (mm)	Diameter of Bolt Hole Circle DBC (mm)	Diameter of Bolt Hole (mm)	No. of Holes	Thickness of Flange	Housing OD (mm)	Flange to Flange Distance (FD) (mm)	Flow Range (m ³ /hr) for velocity 0.3m/s to 6m/s	
										Min.	Max.
1/2"	15	88.9	34.9	60.3	15.9	4	11.1	125	200	0.19	3.817
3/4"	20	98.4	42.9	69.8	15.9	4	12.7	125	200	0.33	6.785
1"	25	107.9	50.8	79.4	15.9	4	14.3	145	200	0.53	10.602
1 1/4"	32	117.5	63.5	88.9	15.9	4	15.9	155	200	0.86	17.371
1 1/2"	40	127.0	73.0	98.4	15.9	4	17.5	155	200	1.35	27.143
2"	50	152.4	92.1	120.6	19.0	4	19.0	165	200	2.12	42.4115
2 1/2"	65	177.8	104.8	139.7	19.0	4	22.2	185	200	3.58	71.675
3"	80	190.5	127.0	152.4	19.0	4	23.8	205	200	5.42	108.573
4"	100	228.5	157.2	190.5	19.0	8	23.8	245	260	8.48	169.646
5"	125	254.0	185.7	215.9	22.2	8	23.8	265	260	13.25	265.071
6"	150	279.4	215.9	241.3	22.2	8	25.4	285	310	19.085	381.703
8"	200	342.9	269.9	298.4	22.2	8	28.6	355	360	33.929	678.584

- Note :
- All dimensions are in 'mm'
 - Flange to flange distance (FD) Tolerance : 1) 1/2"(15NB) to 6"(150NB) : +/-3mm 2) 8"(200NB) : +/-5mm
 - For dimensions of line size above 200NB, please consult factory.
 - Typical mounting dimensions are for reference only.
 - Wet Calibrated at IEC/ISO/EN17025 Accredited Calibration Laboratory.
 - Flow meter should be selected with the help of Nomograph (recommended full scale velocity).
 - Flow indication of 6 digit max. up to 999999.

Flow Nomograph



Applications

Food Industry	Chemical Industry	Atomic Energy	Manufacturing Industry
Automation Industry	Thermal Power Energy	Process Industry	Water Treatment Industry

Product Ordering Information :

Order Code for Flow Transmitter			Sample Order Code : TX 1 B1 C1 D1				
Parameter	Code	Description	Parameter	Code	Description		
TX	Electronics Enclosure	TX 1	Field Mount Weather Proof IP67	C	Electrical Connection	C1	M20 *1.5 F
		TX 2	Field Mount Weather Proof IP68		C2	1/2 Inch NPT F	
B	MOC Electronics Enclosure	B1	Aluminium Die Cast		CY	Other	
		B2	SS316	D	Output 1	D1	4 to 20 mA
		D2	4 to 20 mA with HART				
		DX	NA				

Note : ▪ In case of flameproof version only electronics enclosure is flameproof certified.
▪ Accuracy defined at Lab Conditions.

Order Code for Flow Tube						Sample Order Code : FT 15 J2 K1 L1 M2 N2 O3 P1 Q2 R2 S1										
Parameter	Code	Description	Code	Description	Parameter	Code	Description									
FT	Flow Tube	FT 15	15 NB	FT 65	65 NB	P	Flow Tube Lining Material	P4	PTFE (15 to 200 NB)							
		FT 20	20 NB	FT 80	80 NB			P5	PU (15to 200 NB)							
		FT 25	25 NB	FT 100	100 NB			P6	Ceramic (15 to 200 NB)							
		FT 32	32 NB	FT 125	125 NB			PY	Other							
		FT 40	40 NB	FT 150	150 NB			PX	NA							
		FT 50	50 NB	FT 200	200 NB			Q	Flange Standard and Rating	Q1	ANSI 150 B16.5					
		J	Electronics Location	J1	Integral (Local)					Q2	ANSI 300 B16.5					
J2	Remote			Q3	ANSI 600 B 16.5											
K	Remote Cable Length	K1	5 Meter	Q4	DIN PN 10 EN 1092-1											
		KX	NA	Q5	DIN PN 16 EN 1092-1											
L	Flow Tube Protection Class	L1	IP-67	Q6	DIN PN 25 EN 1092-1											
		L2	IP-68	Q7	DIN PN 40 EN 1092-1											
M	Process Connection	M1	Threaded (15 to 50 NB)	Q8	IS 1538											
		M2	Flanged (15 To 200 NB)	QY	Other											
		M3	Triclover (15 to 100 NB)	QX	NA											
		M4	SMS Union (25 to 100 NB)	R	Material of construction - Flow Tube	R1	SS304									
		M5	Compact (Wafer) - 15 to 200 NB Maximum			R2	SS316									
N	Material of construction - Flange	N1	MS	RY	Other											
		N2	CS	S	Material of construction - Electrode	S1	SS316L									
		N3	SS304			S2	Hastelloy C									
		N4	SS316			S3	Platinum									
		NX	NA			S4	Tantalum									
			S5			Titanium										
O	Material of construction - Coil Housing	O1	MS	<p>Note : ▪ Due to our continuous product revisions, design specification and model numbers are subject to change without notice. ▪ To be used for industrial applications. ▪ For other requirement please consult factory.</p>												
		O2	SS304													
		O3	SS316													
P	Flow Tube Lining Material	P1	Neoprene Rubber (Above 40 NB)													
		P2	Ebonite Rubber (Above 40 NB)													
		P3	PFA (15 to 200 NB)													

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