

FL 102

TWO WIRE TURBINE FLOW METER



Features

- Simple & Cost Effective Construction
- Provides wide flow ranges
- Suitable for non conductive clear liquids
- Remote display optionally available
- Easy maintenance
- Electronics Protection Class : Weatherproof IP 65 & Flameproof (CMRI IIA IIB Certified)



Description

Electronet's series FL-102 are turbine flow transmitter specially used for various industrial applications. The flowing media engages a vaned rotor causing it to rotate at an angular velocity proportional to flow rate. The pick-up coil senses the spinning motion of the rotor inside the pipe & converts it into a pulsating electrical signal. Summation of the pulsating electrical signal is directly related to the total flow. The frequency is linearly proportional to flow rate which is converted to electrical signal 4 - 20 mA .

Technical Specifications

Performance Characteristics	
Media	Liquids (Clear)
Line Size	15 NB to 200 NB
Viscosity	100 cp max
Type of Output	1) 4 to 20 mA DC 2) Pulse (Open collector)
Calibration Range	As per requirement (Factory Calibrated)
Accuracy*	< $\pm 0.5\%$ of F.S. (For 20 to 100% Flow)
Linearity	+/- 1% of F. S.
Repeatability	+/- 1% of F. S.
Pressure Drop	Approx. 0.28 kg/cm ² @ max. Flow
Turn Down Ratio	10 : 1 to 100 : 1
Process Temperature	0 to 85 °C max.
Process Pressure	0 to 10 kg/cm ² max
Material of construction	1) Bearings - Tungsten Carbide Sleeve / V Jewel
	2) Rotor - SS410 / 17.4 PH
	3) Shaft - Tungsten Carbide
	4) Body / Support / Flange - SS
Power Supply	24 V DC
Power Consumption	< 1 VA
Response Time	< 100 mSec
Temperature Coefficient	+/- 0.01% Per °C
Electronic Protection Class	Field Mount Weather Proof IP-67, Flameproof (CMRI IIA IIB Certified)

Note :- For process conditions other than above please consult factory.

Technical Specifications

Electrical Connection	1) M20 *1.5 F
	2) 1/2 Inch NPT F
	3) Pluggable Connector
Process Connection	Threaded (15 to 50 NB)
	Flanged (15 To 200 NB)
	Triclover (15 to 100 NB)
	SMS Union (25 to 100 NB)
Mounting	In-Line, (Horizontal OR Vertical)
Ambient Conditions	Temperature -0 to 55°C / Humidity 5 to 95% non condensing

Assembly Overview

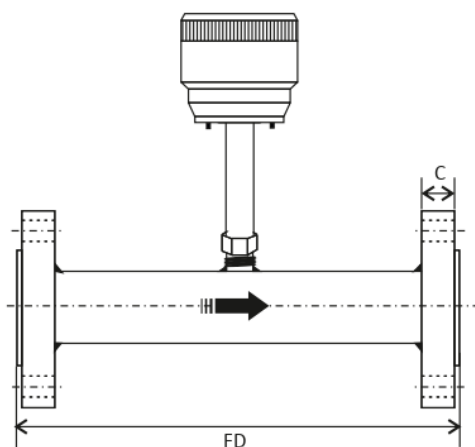


Fig. 1 Front View

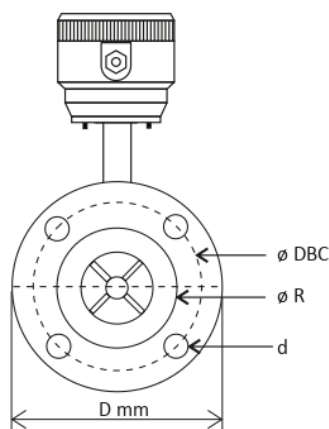


Fig. 2 Side View

Line Size		Flange To Flange Distance	Flow Range (m ³ /Hr)			
Inch	NB		Velocity 0.3m/s	Velocity 2.5m/s	Velocity 6m/s	Velocity 10m/s
½"	15	200	0.19	1.59	3.81	6.36
¾"	20	200	0.34	2.83	6.785	11.31
1"	25	200	0.53	4.42	10.602	17.67
1¼"	32	200	0.87	7.24	17.371	28.95
1½"	40	200	1.36	11.31	27.143	45.24
2"	50	200	2.12	17.67	42.4115	70.69
2½"	65	200	3.58	29.86	71.675	119.46
3"	80	200	5.43	45.24	108.573	180.96
4"	100	250	8.48	70.69	169.646	282.74
5"	125	250	13.25	110.45	265.071	441.79
6"	150	300	19.09	159.04	381.703	636.17
8"	200	350	33.93	282.74	678.584	1130.97

Note : Flange to flange distance (FD) Tolerance : 1) 1/2"(50NB) to 6"(150NB) : +/-3mm 2) 8"(200NB) : +/-5mm

- All dimensions are in 'mm'
- 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 Rig.
- Flow meter should be selected with the help of Nomograph (recommended full scale velocity).

Ordering Information for Transmitter

Sample Order Code : FL 102-TX-A1-B1-C1-D1

Parameter		Code	Description
A	Electronics Transmitter	A1	Weather Proof IP-67
		A2	Flameproof (CMRI IIA IIB Certified)
B	MOC Electronics Enclosure	B1	Aluminium Die Cast PU Painted
		B2	SS316

Parameter		Code	Description
C	Electrical Connection	C1	M20 *1.5 F
	Cable entry	C2	1/2 Inch NPT F
		C3	Pluggable Connector
Note : In case of flameproof version only electronics enclosure is flameproof certified.			
D	Output	D1	4 to 20 mA
		D2	Pulse (Open Collector)
		DX	NA

Ordering Information for Flow Tube

Sample Order Code : FL102-FT15-N1-O1-P1-Q1-R1-S1-T1-U1-V1

Parameter		Code	Description	Code	Description
FT	Flow Tube	FT 15	15 NB	FT 65	65 NB
		FT 20	20 NB	FT 80	80 NB
		FT 25	25 NB	FT 100	100 NB
		FT 32	32 NB	FT 125	125 NB
		FT 40	40 NB	FT 150	150 NB
		FT 50	50 NB	FT 200	200 NB
N	MOC of Flange	N1	MS		
		N2	SS-304		
		N3	SS-316		
		NX	NA		
O	Electronics Location	O1	Integral (Local)		
		O2	Remote		
P	Remote Cable Length	P1	5 Meter		
		P2	10 Meter		
		P3	15 Meter		
		PX	NA		
Q	Flow Tube Protection Class	Q1	IP-67 (In Case of Integral)		
		Q2	IP-68 (In Case of Remote)		
R	Process Connection	R1	Threaded (15 to 50 NB)		
		R2	Flanged (15 To 200 NB)		
		R3	Triclover (15 to 100 NB)		
		R4	SMS Union (25 to 100 NB)		
		RY	Other		

Parameter		Code	Description
S	Material of construction Flow Tube	S1	SS-304
		S2	SS-316
		SY	Other
T	Flange Standard and Rating	T1	ANSI 150 B16.5
		T2	ANSI 300 B16.5
		T3	ANSI 600 B 16.5
		T4	DIN PN 10 EN 1092-1
		T5	DIN PN 16 EN 1092-1
		T6	DIN PN 25 EN 1092-1
		T7	DIN PN 40 EN 1092-1
		TY	Other
TX	NA		
U	MOC Rotor	U1	SS410
		U2	17.4 PH
		UY	Other
V	Bearings Type	V1	Tungsten Carbide Sleeve Bearing
		V2	V Jewel Bearing
		VY	Other

Note :

- Due to our continuous product revisions, design specification & model numbers are subject to change without notice.
- To be used for industrial applications.
- Accuracy defined at Lab Conditions.
- For other requirement please consult factory.
- This product is meant for laboratory/Process application only & not for custody transfer application.

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