

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

| | |
|-----------------------------|--|
| 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 | < ± 1% 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.

| | |
|-----------------------|---|
| 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

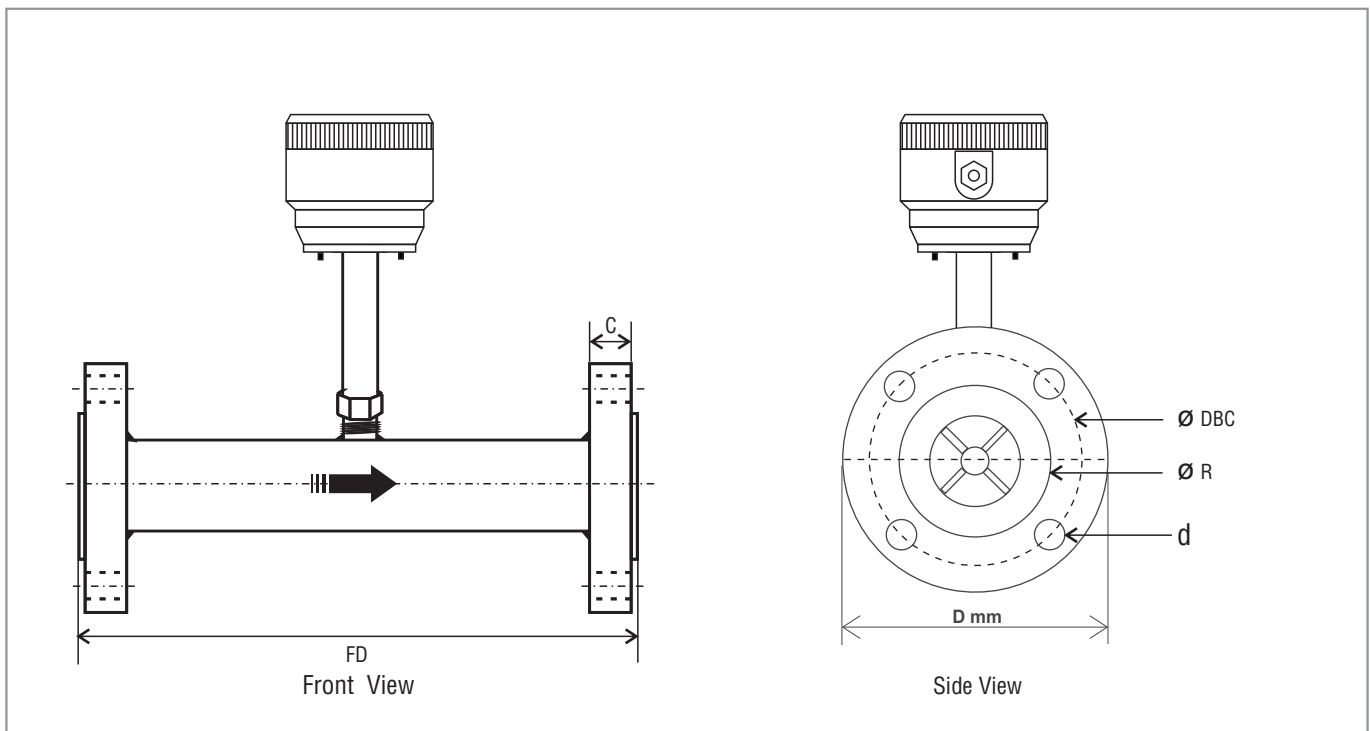


TABLE -1 : Dimensional Details (Flow Meter with ANSI 150 Flange)

| Note : | Line Size | | Flow Range | | | Flange Details | | | | | |
|---|-----------|-------|--------------------------------|------------------------------|-------------------------------|-------------------|------|-------|-------|------|-----|
| | Inch | NB | 0.3m/s (m ³ /hr) | 2m/s (m ³ /hr) | 10m/s (m ³ /hr) | ANSI 150 (B 16.5) | | | | | |
| | | | | | | D | C | R | DBC | d | FD |
| D : (OD)Outer Diameter of Flange | 1/2" | 15NB | 0.19 | 3.275 | 6.36 | 88.9 | 11.1 | 34.9 | 60.3 | 15.9 | 200 |
| C : Thickness of flange | 3/4" | 20NB | 0.34 | 5.825 | 11.31 | 98.4 | 12.7 | 42.9 | 69.8 | 15.9 | 200 |
| R : Diameter of Raised face | 1" | 25NB | 0.5301 | 9.100 | 17.67 | 107.9 | 14.3 | 50.8 | 79.4 | 15.9 | 200 |
| DBC : Diameter of bolt circle | 1 1/4" | 32NB | 0.87 | 14.91 | 28.95 | 117.0 | 14.0 | 64 | 78 | 14.0 | 200 |
| d : Size of Bolt Hole | 1 1/2" | 40NB | 1.36 | 23.3 | 45.24 | 127.0 | 17.5 | 73 | 98.4 | 15.9 | 200 |
| FD : Flange to Flange distance | 2" | 50NB | 2.12 | 36.4 | 70.69 | 152.4 | 19.1 | 92.1 | 120.6 | 19.0 | 200 |
| No. of Holes: | 2 1/2" | 65NB | 3.58 | 61.52 | 119.46 | 177.8 | 22.2 | 104.8 | 139.7 | 19.0 | 200 |
| For 1/2" to 3" = 4 Holes | 3" | 80NB | 5.43 | 93.19 | 180.96 | 190.5 | 23.8 | 127.0 | 152.4 | 19.0 | 200 |
| 4" to 6" = 8 Holes | 4" | 100NB | 8.48 | 145.61 | 282.74 | 228.6 | 23.8 | 157.2 | 190.5 | 19.0 | 250 |
| *Typical mounting dimensions for reference only | 5" | 125NB | 13.25 | 227.52 | 441.79 | 254.0 | 23.8 | 185.7 | 215.9 | 22.2 | 250 |
| *All dimensions are in 'mm' | 6" | 150NB | 19.09 | 327.63 | 636.17 | 279.4 | 25.4 | 215.9 | 241.3 | 22.2 | 300 |
| | 8" | 200NB | 33.93 | 582.45 | 1130.97 | 342.9 | 28.3 | 269.9 | 298.4 | 22.2 | 350 |

Product Ordering Information :

| Order Code for Flow Transmitter | | | |
|---|------|-------------------------------------|--|
| Sample Order Code : TX 1 B2 C1 D2 | | | |
| Parameter | Code | Description | |
| TX | TX 1 | Field Mount Weather Proof IP67 | |
| | TX 4 | Flameproof (CMRI IIA IIB Certified) | |
| B | B1 | Aluminium Die Cast | |
| | B2 | SS316 | |
| C | C1 | M20 *1.5 F | |
| | C2 | 1/2 Inch NPT F | |
| | C3 | Pluggable Connector | |
| Parameter | Code | Description | |
| D | D1 | 4 to 20 mA | |
| | D2 | Pulse (Open Collector) | |
| | DX | NA | |
| Note : In case of flameproof version only electronics enclosure is flameproof certified. | | | |

| Order Code for Flow Tube | | | | | | | |
|--|-------|--------------------------|--------|--|-----------|---------|---------------------------------|
| Sample Order Code : FT 15 I2 J1 K1 L1 M2 | | | | | | | |
| Parameter | Code | Description | Code | Description | Parameter | Code | Description |
| FT | FT 15 | 15 NB | FT 65 | 65 NB | K | K1 | ANSI 150 B16.5 |
| | FT 20 | 20 NB | FT 80 | 80 NB | | K2 | ANSI 300 B16.5 |
| | FT 25 | 25 NB | FT 100 | 100 NB | | K3 | ANSI 600 B 16.5 |
| | FT 32 | 32 NB | FT 125 | 125 NB | | K4 | DIN PN 10 EN 1092-1 |
| | FT 40 | 40 NB | FT 150 | 150 NB | | K5 | DIN PN 16 EN 1092-1 |
| | FT 50 | 50 NB | FT 200 | 200 NB | | K6 | DIN PN 25 EN 1092-1 |
| | | | | | | K7 | DIN PN 40 EN 1092-1 |
| I | I1 | Threaded (15 to 50 NB) | | L | L1 | SS410 | |
| | I2 | Flanged (15 To 200 NB) | | | L2 | 17.4 PH | |
| | I3 | Triclover (15 to 100 NB) | | | LY | Other | |
| | I4 | SMS Union (25 to 100 NB) | | | M | M1 | Tungsten Carbide Sleeve Bearing |
| | IY | Other | | | | M2 | V Jewel Bearing |
| | | | MY | Other | | | |
| J | J1 | SS304 | | Note : <ul style="list-style-type: none"> Due to our continuous product revisions, design specification and 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. | | | |
| | J2 | SS316 | | | | | |
| | JY | Other | | | | | |

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