

Technical Reading

- As fluid flows through the magnetic field, conductive particles in the fluid create changes.
- This variation is used to measure and calculate the velocity of water flow through the pipe.
- When the fluid moves faster, more voltage is generated.
- The electronic transmitter processes the voltage signal to determine liquid flow

Multi-Language Module Design Multifunctional Output



Infrared Touch Screen



32G SD Card



Bluetooth



Can display data of Temperature & Pressure

ELECTROMAGNETIC FLOWMETER

Magnetic flow meter use the principle of Faraday's Law of electromagnetic induction to measure the flow rate of liquid in a pipe. In the magnetic flowmeter pipe parts, a magnetic field is generated, and channeled into the liquid flowing through the pipe.

Sensor implementations:



WTP/WWTP/
WATER SUPPLY



PUMP HOUSE



INDUSTRIAL ESTATE



CHEMICAL INDUSTRY



MANUFACTURER



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ELECTROMAGNETIC FLOW METER



Magnetic flow meters operate based on Faraday's Law of Electromagnetic Induction to gauge the flow rate of liquids within a pipe. A magnetic field is established within the flowmeter pipe components, guiding the liquid's path.

According to Faraday's Law, the voltage produced is directly linked to the liquid's movement. When a conductor traverses a magnetic field, it generates an electric signal proportionate to the fluid's velocity within the field.

It contains the following feature :

- High accuracy & wide flow range measurement
- 99.999% pure copper for oil
- No mechanically moving parts
- IP68 proof, maximum 3 meter immersion in water
- Drinking water approvals
- FDA approvals
- Bi-directional measure
- Wide choice of materials for housing and flanges including SS304 and SS316
- Advance wire-winding technology, no drift zero point
- Robust, fully welded and potted construction
- In house wet calibration for all diameters (up to DN3000)
- Three electrodes
- ≥ 3 mm thickness PTFE liner, durable service life

Technical Data

| PARAMETERS | ELECTROMAGNETIC FLOW METER |
|---------------------|---|
| Diameter | PTFE: DN2.5 - DN1000 |
| | Rubber: DN50 - DN3000 |
| Flow Direction | Positive; Negative |
| Repeatability Error | $\pm 0.1\%$ |
| Accuracy | $\pm 0.5\%$ of rate; $\pm 0.2\%$ of rate |
| Medium Temperature | Rubber liner: -20°C ... $+60^{\circ}\text{C}$ |
| | PTFE liner: -20°C ... -120°C |
| | PFA: -20°C ... $+180^{\circ}\text{C}$ |



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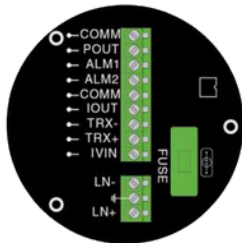
| PARAMETERS | ELECTROMAGNETIC FLOW METER |
|---------------------|----------------------------|
| Velocity | 0.3 - 10 m/s |
| Ambient Temperature | -20°C ... +60°C |
| Relative Humidity | 5% ~ 95% |
| Power Consumption | <20W |
| Protection | IP65; IP68 (Remote type) |

LCD Display

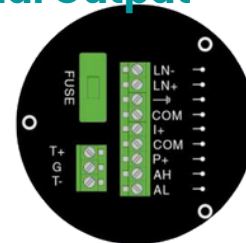


- Instantaneous Flow
- Flow Unit
- Flow Velocity (FLS)
- Flow Percentage (FQP)
- Ratio of Emptiness (MTP)
- Forward and Reverse Integrated Volumes
- Forward/Reverse Flow Difference Alarm

Multi-Language Module Design Multifunctional Output



Terminal Configuration



Terminal Configuration
Explosion-proof

| | |
|-------------|--|
| I+ | Frequency (Pulse) Output for Bi-directional Flow |
| COM | Alarm Output for Upper Limit |
| P+ | Alarm Output for Low Limit |
| COM | Frequency, Pulse, and Current Common (GND) |
| AL | Frequency, Pulse, and Current Almon (GND) |
| COM | Current Output of Flow Rate |
| FUSE | 24V DC Power Supply for 2-wire 4-20mA Output |
| T+ | + Coomunication RS485(+) |
| T- | - Communication RS485(-) |
| LN+ | L: Live Wire of 110-240V AC; +:24V DC + |
| LN- | N: Naught Wire of 110-240V AC; -:24V DC - |

| | |
|-------------|---|
| POUT | Frequency(Pulse) Output for Bi-directional Flow |
| ALM1 | Alarm Output for Upper Limit |
| ALM2 | Alarm Output for Low Limit |
| COMM | Frequency, Pulse and Current Common (GND) |
| COMM | Frequency, Pulse and Current Common (GND) |
| IOUT | Current Output of Flowrate |
| IVIN | 24V DC Power Supply for 2-wire 4-20mA Output |
| TRX+ | + Coomunication RS485(+) |
| TRX- | - Communication RS485(-) |
| LN+ | L: Live Wire of 110-240V AC; +:24V DC + |
| LN- | N: Naught Wire of 110-240V AC; -:24V DC - |



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Size & Technical Data

| DIAMETERS | | FLOW RATE (m ³ /h) | | |
|-----------|--------|-------------------------------|------------|------------|
| | | V = 0.3 m/s | V = 6 m/s | V = 10 m/s |
| mm | inch | Min | Calibrated | Max |
| 2.5 | 1/10" | 0.0053 | 0.106 | 0.177 |
| 4 | 1/8" | 0.014 | 0.271 | 0.452 |
| 6 | 1/4" | 0.03 | 0.6 | 1 |
| 10 | 3/8" | 0.1 | 1.7 | 3 |
| 15 | 1/2" | 0.2 | 4 | 6 |
| 20 | 3/4" | 0.3 | 7 | 11 |
| 25 | 1" | 0.5 | 11 | 18 |
| 32 | 1-1/4" | 0.9 | 17 | 29 |
| 40 | 1-1/2" | 1 | 27 | 45 |
| 50 | 2" | 2 | 42 | 71 |
| 65 | 2-1/2" | 4 | 72 | 120 |
| 80 | 3" | 5 | 109 | 181 |
| 100 | 4" | 8 | 170 | 283 |
| 125 | 5" | 13 | 265 | 442 |
| 150 | 6" | 20 | 382 | 636 |
| 200 | 8" | 34 | 679 | 1131 |
| 250 | 10" | 53 | 1060 | 1767 |
| 300 | 12" | 76 | 1527 | 2545 |
| 350 | 14" | 104 | 2078 | 3465 |
| 400 | 16" | 136 | 2714 | 4524 |
| 450 | 18" | 171 | 3435 | 5726 |
| 500 | 20" | 212 | 4241 | 7069 |
| 600 | 24" | 305 | 6107 | 10179 |
| 700 | 28" | 415 | 8310 | 13850 |
| 800 | 32" | 542 | 10860 | 18100 |
| 900 | 36" | 662 | 13740 | 22900 |
| 1000 | 40" | 848 | 16962 | 28270 |



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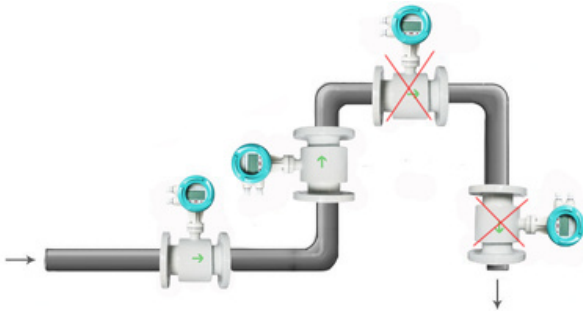
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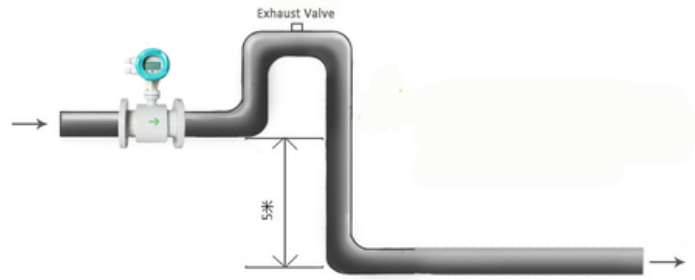


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Installation



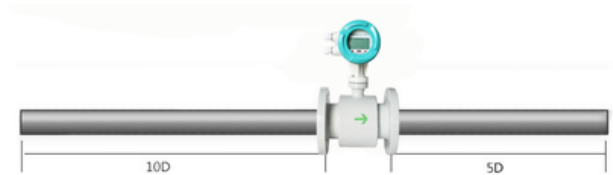
The flow meter should be installed at a lower level and vertically upwards of the horizontal pipe. Avoid installation at the highest and vertically downwards point of the pipe



When drop is more than 5m, install exhaust valve at the downstream



Install at the lowest point when used in poen drain pipe



Need 10D of upstreast and 5D of downstreast



Don't install it at the entrance of pump, install it at the exit of pump



Install at the rising direction



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