

DATASHEET

Flow

Insertion Electromagnetic Flow Meter Model PWF-E1700



**Flange connection
without ball valve**

**Thread connection
with ball valve**

**Flange connection
with ball valve**

**Battery supply flange connection
with ball valve**

Description

POKCENSER Insertion Electromagnetic Flow Meter is composed of electromagnetic sensor and electromagnetic flow converter, used to measure the conductive liquid that electrical conductivity is greater than 5us/cm. It retains the advantages of pipeline electromagnetic flowmeter, and overcome it's installation difficulties and higher cost for large pipes. In particular, after adopting pressure opening and pressure installation technology, the Insert type electromagnetic flow meter can be installed without water, and can also be installed on cast iron pipes and cement pipes. It is used to measure water, sewage, acid, alkali and other mediums. Suitable for measuring large pipe of DN300-DN3000mm. Widely used to municipal water supply and drainage, industrial engineering, hydraulic engineering, etc.

Features

- No moving parts, simple structure and reliable operation
- Installation without cutting off the water supply under the condition of low pressure
- Transducer has no pressure loss, very low energy loss
- Small volume and light weight, save on shipping cost and it's convenient to install
- Cost is less for product and installation than other electromagnetic flowmeters, especially large diameter pipes
- Advanced low frequency square wave excitation, no zero point drift, high disturbance resistant and reliable operation

Specifications

| | |
|------------------------------------|---|
| Applicable Scene | Closed pipeline |
| Caliber Range | DN100-DN3000 |
| Flow Range | 0.01 m/s to 10m/s |
| Pressure Range | 0.6-1.6Mpa |
| Temperature Resistance | -25~80℃ |
| Accuracy | ±1.5%, ±2.0%, ±2.5% |
| Protection Level | Sensor IP65\IP67\IP68 (optional), converter IP65 |
| Output Type | Frequency, pulse, 4-20mA, RS485 Modbus protocol; Hart protocol (optional), Profibus DP (optional) |
| Power Supply | 85~250V, 45~63Hz, 20VDC-36VDC, 3.6V battery power supply (DN100-1000) |
| Power Consumption | Less than 20 W |
| Lining Type | ABS, PTFE, F46, PFA |
| Electrode Type | 316L, HB, HC, titanium, tantalum, platinum-iridium alloy, stainless steel tungsten carbide |
| Connection Method | Simple type, threaded ball valve type, flange ball valve type |
| Straight Pipe Section Requirements | Upstream 5DN, downstream 3DN |
| Sensor Material | 304, 316 (optional) |
| Structure Form | Integrated type, split type |
| Cable Entry | M20*1.5, 1/2NPT |
| Indicator Type | LCD display with backlight |
| Flow Unit | m ³ /h, m ³ /m, m ³ /s, L/h, L/s, gal/h, gal/m, gal/s, bbl/h, bbl/m, bbl/s |

Structure

Transducer is mainly constituted of measuring tube, excitation system, insertion pole, connecting box, mounting base, sealing and locating device etc.

Measuring tube: it is used to measure the flow rate of the fluid. It is made from insulating materials and is equipped with a pair of electrodes. Apart from the head or tube inwall, other parts are insulated from the measured fluid.

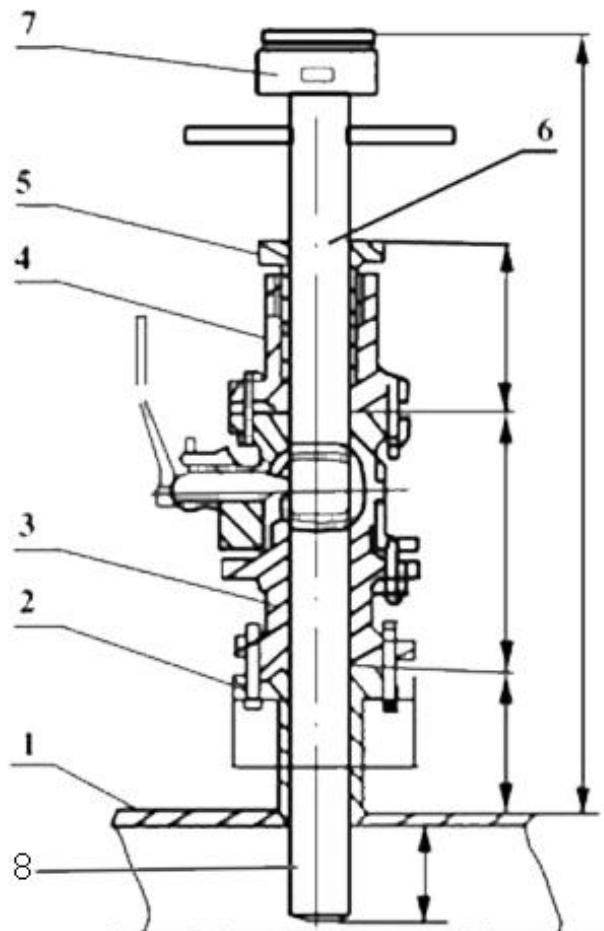
Excitation system: it is constituted of excitation coils and an iron core and is used to produce a magnetic field. It is sealed in and also insulated from the insertion pole.

Mounting base: It is welded to the measured pipeline and is used to install the part that connects the ball valve and transducer.

Sealing device: it is composed of compression thread base, gland nut, rubber washer and positioning screw. It is used to seal the electromagnetic transducer so as to enable it to bear some operating pressure.

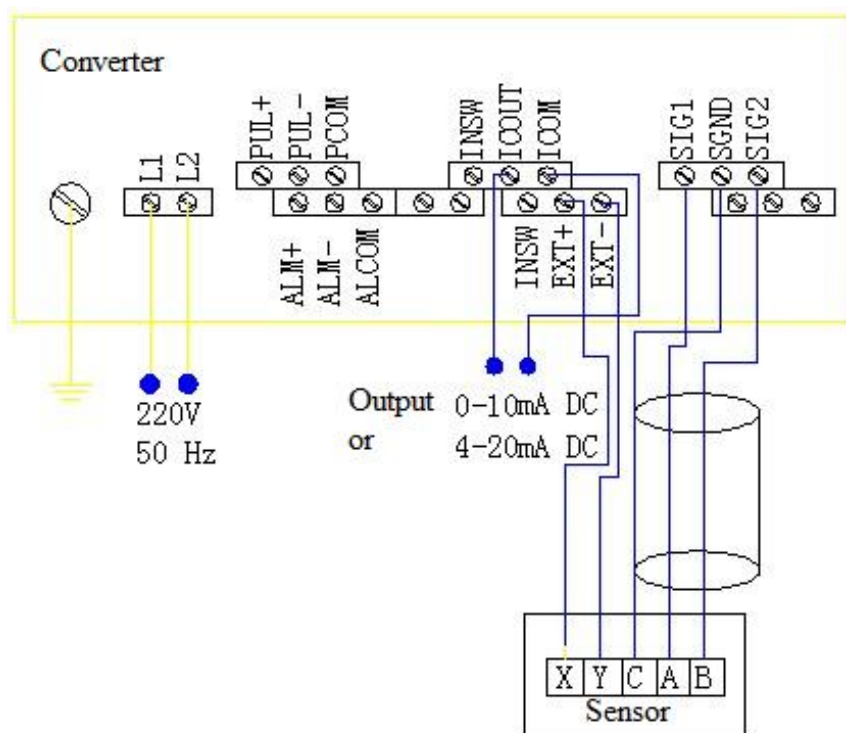
Insertion pole: It is made of stainless steel. The measuring head is fixed inside the insertion pole. The excitation lead and electrode lead get through the insertion pole, are sealed with the measured medium and connected to the connecting box. A directional indicating arm is welded to the insertion pole in order to ensure that magnetic field, flow rate and electrode wire are perpendicular to each other during installation, which conforms to Faraday's law of electromagnetic induction.

Connecting box: It is above the transducer. The amphenol connector inside the connecting box is used to connect the transducer and transverter.



1. measuring tube 2. connecting flange 3. ball valve 4. connecting flange 5. sealing head 6. sensor 7. connecting box 8. measuring system

Electrical Connection



How to Order

Example Part Number: **E17001200CSSL2S1T2M1C1V1**

| Model | PWF-E1700 | | E1700 |
|------------------|---|---|-------|
| Nominal Diameter | 300=DN300mm 350=DN350mm 400=DN450mm ... 3000=DN3000mm | | 1200 |
| Structure | C=Compact type | S=Remote type(standard cable 10m) | C |
| Electrode | SS=316L Ta=Tantalum HC=Hastelloy C | Ti=Titanium HB= Hastelloy B PI=Platinum iridium alloy | SS |
| Lining | L1=ABS L3=F46 | L2=PTFE L4=PFA | L2 |
| Power Supply | S1=85~250VAC | S2=24VDC S3=3.2V Lithium battery | S1 |
| Signal Output | T1= No output | T2=4-20mA/pulse output | T2 |
| Communication | M1=RS485 Modbus RTU | M2=HART M3=GPRS | M1 |
| Connection | C1=Thread | C2=Flange | C1 |
| Installation | V0=Without a ball valve | V1=With a ball valve | V1 |