

FEATURES

The FLWM-10A is a magnetic volumetric flow meter which does not have any moving parts and is ideal for wastewater applications or any dirty liquid which is conductive or water based. The FLWM-10A flowmeter will generally not work with hydrocarbons, distilled water and many non-aqueous solutions. The FLWM-10A flowmeter is ideal also for applications where low pressure drop and low maintenance are required. The FLWM-10A flowmeter is insertion style solution thus only minimal intervention in water pipe during its installation is necessary.

PRINCIPLE OF OPERATION

The operation of a magnetic flowmeter is based upon Faraday's Law, which states that the voltage induced across any conductor as it moves at right angles through a magnetic field is proportional to the velocity of that conductor.

Flowmeter operating formula: $E = k \times V \times B \times D$

where:

k - the scale factor

E - the voltage generated in a conductor

V - the velocity of the conductor

B - the magnetic field strength

D - The length of the conductor

Role of conductor (wire) there fullfills liquid (e.g. water).



General view of flowmeter FLWM-10A and its electronics equipment

TECHNICAL SPECIFICATIONS¹⁾

Wetted Materials: stainless steel body and electrodes, PVDF insulator, O-rings (FPM standard), multi-conductor shielded cable

Power: 5V (600mA) nominal

Flow Range: 0.025 m/s (min), 10 m/s (max)

Linearity: $\pm 0.5\%$ reading + 0.005 m/s

Minimum Conductivity of liquid: 20 $\mu\text{S/cm}$

Accuracy: $< \pm 1\%$ of measured value in reference conditions where the fluid is water at ambient temperature, the appropriate upstream and downstream distances are observed, the sensor is inserted at the correct depth, and there is a fully developed flow profile which is in compliance to appropriate norms.

Electrical interface: RS-232/RS-485

Electrical connector: RJ-45

Media: -15 to 85°C

Maximum Operating Pressure: 20 bar @ 25°C

Hot-Tap Installation Requirements:

Maximum Installation Pressure: 20 bar

Maximum Installation Temperature: 40°C Hot-tap installation at temperatures that are greater than 40°C or with hazardous liquids are not permitted with this product.

¹⁾ Product under development. Technical specifications can vary.