EESIFLO 4000 Series

Portable Transit Time Ultrasonic Flowmeter

- **Ultrasonic flowmeter waterproof crush proof case**
- **Easy to install clamp-on sensors with no process interruption**
- **Non-invasive flow measurement of liquids, no pipeline disturbance, no pressure loss**
- **Suitable for all commonly used pipe**
- **Standard Pipe version and Large Pipe versions with 10 hour Internal Battery**

Description

The EESIFLO 4000 Series range of non-invasive flowmeters utilises ultrasonic technology for the accurate flow measurement of liquids in full pipes.

The portable transmitter can be configured via the keypad without any additional programming devices and is available as single channel unit.

The measurement of flow is based on the principle that sound waves are influenced by a flowing medium.

Measurements are made by penetrating the pipe with ultrasound and subsequently time differences, frequency variations and phase shifts of the ultrasonic signals are evaluated. This measuring technique has no effect on the flowing liquid. There is no pressure loss in the pipe and no wear on components of the measuring device.

The ultrasonic sensors are clamped onto the outside of the pipe, thus eliminating the need to dismantle the pipework and interrupt the process. The EESIFLO 4000 Series can be applied to any type of standard pipe carrying clean or dirty liquids.

Advantages

- Low installation effort and costs
- Measurement is independent of fluid conductivity and pressure
- No pressure loss, no possibility of leakage
- Retrospective installation for existing plants possible
- No cutting of pipes necessary, no interruption of process, no plant shut down
- No additional fittings for maintenance required
- Hygienic measurement, no risk of contamination, suitable for ultra clean liquids
- No contact with medium, no risk of corrosion when used with aggressive media
- Cost advantages when used with large diameter pipes, high pressure systems, etc.

Specifications

General

Measuring principle	:Ultrasonic time difference correlation principle
Flow velocity range	:0.01 ... 25 m/s
Resolution	:0.025 cm/s
Repeatibility	:0.15 % of measured value ± 0.01 m/s
Accuracy	:Volume flow ± 1.3 % of measured value depending on application, ± 0.5 % of measured value with process calibration Flow velocity ± 0.5 % of measured value
Turn down ratio	:1/100
Gaseous and solid content of medium	:< 10 % of volume

Flow transmitter

Enclosure	:Ultra High Impact structural copolymer
Degree of protection	:Water tight ,crush proof and dust proof . NATO codified and tested to IP-67
Operating temperature	:-10 ... 60 °C (14 ... 140 °F)
Flow channels	:1
Power supply	:100 ... 240 V AC
Display	:2 x 16 digit LCD, dot matrix, backlit
Dimensions	:10-5/8" x 9-11/16" x 6-7/8" (27 cm x 24.6 cm x 17.4 cm)
Weight	:Approx. 1.5 kg
Power consumption	:< 10 W
Signal damping	:0 ... 100 s, adjustable
Response time	:1 s
Measuring cycle	:100 ... 1000 Hz, single channel
Operating languages	:English

Quantity and units of measurement

Volumetric flow rate	:m^3/h, m^3/min, m^3/s, l/h, l/min, l/s, USgph (US gallons per hour), USgpm, USgps, bbl/d (barrels per day), bbl/min, bbl/s
Flow velocity	:m/s, inch/s
Mass flow rate	:g/s, t/h, kg/h, kg/min
Volume	:m^3, l, gal (US gallons), bbl
Mass	:g, kg, t

Subject to change without notice

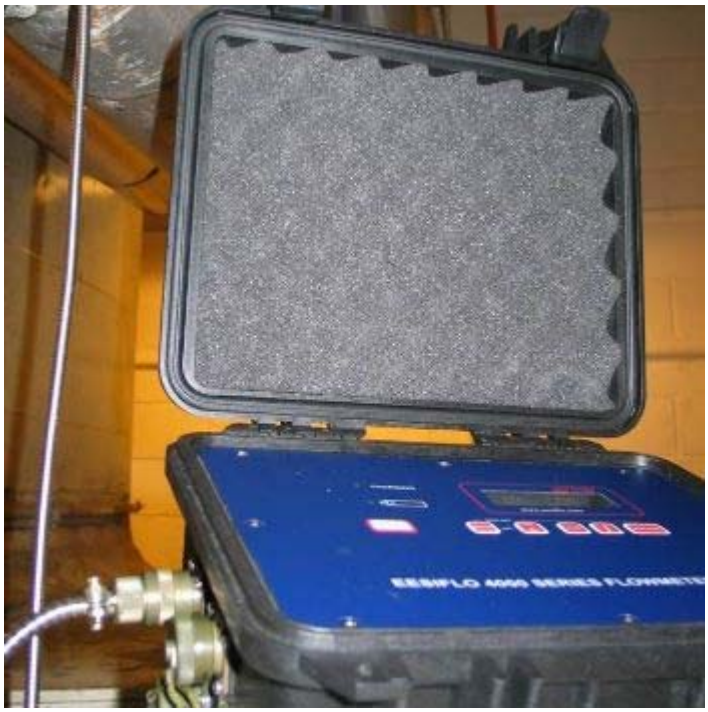
Process outputs	:Galvanically isolated from main electronics
Current	:0/4 ... 20 mA active (R_{ext} < 500 ohm), 0.1 % of measued value ± 15 microAmp
Digital (pulse, status)	:Totaliser value 0.01 ... 1000 / unit, width 80 ... 1000 ms, Open-Collector 24 V/4 mA

Large Transducers

(2)4 inches/ (50)100mm to 98 inches /2500mm
60 x 30 x 34 mm
Stainless steel
-30 ... 130 ºC (-22 ... 266 ºF)
Steel wrapped 4.4M cable/14 ft

Small Transducers

(0.4) 1 Inch (10)25mm to ...15.5 inches /400mm
43x18x22mm
Stainless steel
-30...130 ºC (-22...266 ºF)
Steel wrapped 3M cable/9 ft



4000 Series Portable with MIL SPEC connectors