FLOWX3 F3.80 Oval Gear Flow Sensor

The new line of oval gear flow sensors F3.80 has been designed following the main industrial application requirements: high mechanical resistance and reliable performances.
These sensors are suitable to measure a wide range of liquid viscosities with a very high accuracy and repeatability.
The sensors can be fixed to flexible or rigid pipes via ¼" GAS threaded process connections. The construction materials, ECTFE (Halar®) or PP or Stainless steel, provide high strength and chemical resistance.

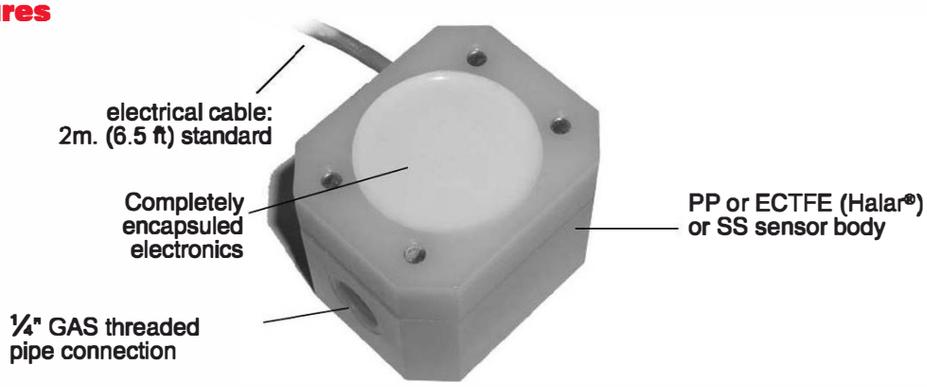
Main Features

- Compact dimensions.
- Easy installation.
- High chemical resistance.
- High viscosity fluids measurement.
- Low pressure loss.

Applications

- Chemical industry
- Laboratory plants
- Dosing systems
- Pulsating flows measurement
- High viscosity and not conductive fluid measurement
- Oil measurement

Technical Features



Operating Principle

The sensor body contains two oval gears set into rotation by a flowing fluid. The two gears are meshed at 90° to define a fixed fluid volume pumped out every rotation.

Two permanent magnets are positioned into each gear and a Hall effect sensor detects the magnetic field generating a square wave signal output with frequency proportional to the number of fluid volumes pumped out.

Technical Data

General

- Flow Rate Range:
  - F3.81.H: 10 to 100 l/h (0.044 up to 0.44 gpm)
  - F3.81.H: 25 to 150 l/h (0.11 up to 0.66 gpm).
- Linearity: 1 % of reading.
- Repeatability: < 0,3% of reading.
- Working Temperature: -10°C to 60°C (14°F to 140°F).
- Max. Fluid Viscosity : 1000 cP (mPas).
- Working Pressure:
  - PP body:
    6 bar (87 psi) @ 25°C (77°F)
    3 bar (44 psi) @ 60°C (140°F)
  - ECTFE body:
    8 bar (116 psi) @ 25°C (77°F)
    5 bar (73 psi) @ 60°C (140°F)
  - SS body:
    8 bar (116 psi) @ 60°C (140°F).
- Enclosure: IP65.
- Wetted Materials:
  - PP version:
    Sensor Body: PP
    O-ring: FPM
    Gear: ECTFE (Halar)
    Shaft: zircone
  - ECTFE version:
    Sensor Body: ECTFE (Halar)
    O-ring: FPM
    Gear: ECTFE (Halar)
    Shaft: zircone
  - Stainless Steel:
    Sensor Body: SS AISI 316L
    O-ring: FPM
    Gear: ECTFE (Halar)
    Shaft: Stainless Steel.
- Connections: ¼" GAS female.
- Cable length: 2 m (6.5 ft) standard.

Standards & Approvals

- Manufactured under ISO 9001 (Quality).
- Manufactured under ISO 14001 (Environmental Management).
- CE.

Specific for F3.81.H

- Supplyvoltage: 5 to 24 VDC ±10%, regulated
- Supply current: < 15 mA @ 24 VDC
- Output signal: square wave Cmos (NPN / PNP)
- K-factor = 5950 Pulses/Liter (22521 Pulses/U.S. Gallon)

Pressure drop