



SPI-Mag Model 182

1" Single Point Insertion Flow Meter

The SPI-Mag Model 182 Electromagnetic Flow Meter is a hot tappable single insertion flow meter for measuring forward flow. The sensor is available for 2-inch taps for pipes from DN 50 to DN 300.

The SPI-Mag 182 is a cost effective flow meter solution with a purchase price independent of line size. The SPI-Mag 182's hot tap installation allows for uninterrupted service as it installs without system shut down, de-watering lines, cutting pipe or welding flanges. Installation costs are reduced by eliminating the need for heavy equipment or extensive manpower. The SPI-Mag 182 can be easily re-located to various line sizes.

The compact insertion design fits in confined spaces and offers complete accessibility. The flow meter can be removed in pipes under pressure for easy inspection, cleaning, calibrating or verification. It is particularly cost-effective for retrofit applications replacing flow meters or in sites never metered before.

TECHNICAL SPECIFICATIONS SPI-Mag Model 182

Volumetric flow in filled flow conduits from DN 50 mm to DN 300 mm utilizing insertable electromagnetic velocity sensor.

Applications

Wastewater: Effluent, Waste Activated, Sludge (WAS),
Return Activated Sludge (RAS),
Reclaim/recycle
Clean Water: Raw Water Intake, Clear Wells

Flow Measurement

Method: Electromagnetic
Range: +0,09 to +9 m/s
Accuracy: $\pm 2\%$ of reading \pm zero stability
(at 0,09 to 6 m/s) velocity range
Zero stability: $\pm 0,009$ m/s

Has reverse flow indication

Conductivity

Minimum conductivity of 5 μ mho/cm

Power Requirements

AC: 90-265 VAC/44-66 Hz (20W/25VA) or
DC: 10-35 VDC at 20W
AC or DC must be specified at time of ordering

Materials

Sensor: Polyurethane exposed to flow
Cable: Polyurethane jacket
Compression seal: Buna "N" exposed to flow
Sensor mounting: PVC and stainless steel exposed to flow (stainless steel insertion tube optional)

Key Features

- Proven electromagnetic technology based on Faraday's Law
- Debris shedding, self cleaning sensor eliminates costly maintenance
- Easy installation/no interruption of flow process
- Special sensors for harsh environments



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The SPI-Mag Model 182 comes pre-calibrated and requires no recalibration in the field. With no moving parts and a single-piece design, the SPI-Mag 182's sensor contains nothing to wear or break, and it is generally immune to clogging by sand, grit or other debris.

The SPI-Mag 182 is easily installed without interruption of the flow process. Sensor insertion hardware is utilized to insert the sensor through a ball valve or corporation stop in the flow conduit. Measurements are taken at the nearest pipe wall with negligible pressure drop in the pipe.

The SPI-Mag Model 182 allows profiling of the pipe inside diameter, further enhancing its measurements accuracy by allowing precise determination of mean velocities. Each flow meter is supplied with an Installation, Operation and Maintenance Manual and a Profiling Instruction Manual.

TECHNICAL SPECIFICATIONS SPI-Mag Model 182

Converter

Model 210: Technical specifications available separately

Outputs

Analog: Galvanically isolated and fully programmable for zero and full scale (4-20mA, 1000 Ohm)
 Pulse: Two Pulse/Frequency/Alarm outputs programmable for high/low flow rates, percent of range, empty pipe, fault conditions, forward/reverse, polarity (normally open/close), analog over-range, pulse over-range, pulse cutoff, etc.

Pressure/Temperature Limits

PVC Insertion Tube : Up to 40°C at 150 psi (10 bar)
 Stainless Steel Insertion Tube: Up to 70°C at 250 psi (17 bar)

Insertion Tube

- Stainless steel tube, 300 mm length. Will profile a 100 mm pipe I.D.
- Stainless steel tube, 600 mm length. Will profile a 400 mm pipe I.D.

Options

- DC Power
- Pole mounting kit
- Sun shield
- Sensor insertion tool
- Stainless steel ID tag
- Valves
- HART Protocol
- Additional sensor cable up to 76 m (for longer length, consult us)

Changes without notice
 Updated: 31/03/2011 by BS