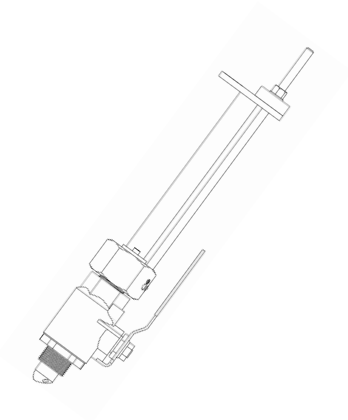
McCROMETER

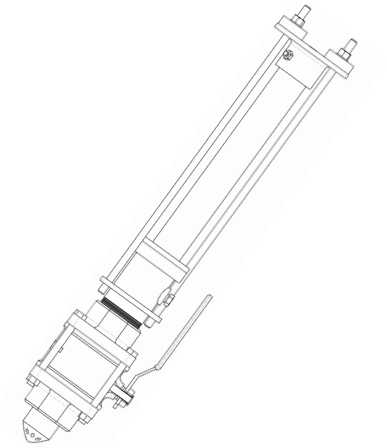
SPI Mag™

CONFIGURATION SHEET

Model 282L



SPI Mag 1" Sensor



SPI Mag 2" Sensor

The SPI Mag™ (Single Point Insertion) Electromagnetic Flow Meter is a hot tappable single point insertion flow meter for measuring forward flow. The sensor is available for one-inch or two-inch taps, depending upon line size and application.

The SPI Mag is a cost effective flow meter solution with a purchase price that is independent of line size making the cost to meter a sixty-inch line the same as a two-inch. The SPI Mag'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 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.

This cost effective flowmeter is available for line sizes from 2 to 96 inches. The flow sensor comes pre-calibrated from McCrometer's NIST traceable Calibration Lab and requires no recalibration in the field. With no moving parts and a single-piece design, the SPI Mag's sensor contains nothing to wear or break, and it is generally immune to clogging by sand, grit or other debris.

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

Accurate Flow Measurement for:

Wastewater: (2" only)
- Effluent
- Waste Activated Sludge (WAS)
- Return Activated Sludge (RAS)
- Reclaim / Recycle

Clean Water: (1" or 2")
- Raw Water Intake
- Clear Wells

L Series Converter:
- Pre-programmed
- Six point curve-fitting algorithm to improve accuracy
- 4-20mA (1000 ohm) analog output
- RS485 port for easy connection to DCS
- Eight line graphical display
- Three key touch programming
- Rugged enclosure meets IP67

Benefits:

- Easy to relocate to various line sizes
- Ease of hot-tap installation
- Installs without service interruption
- Insertion design for total accessibility
- Price is independent of line size
- No moving parts
- Does not require recalibration in the field

McCrometer, Inc. 3255 WEST STETSON AVENUE • HEMET, CALIFORNIA 92545 USA TEL: 951-652-6811 • 800-220-2279 • FAX: 951-652-3078 www.mccrometer.com
Printed In The U.S.A.
Lit. # 24511-12 Rev. 1.0/09-10

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CONFIGURATION SHEET

Model 282L

MEASUREMENT
Volumetric flow in filled flow conduits 2" (50mm) to 96" (2440 mm) in diameter utilizing insertable velocity sensor. 1" meter = 2" to 30" pipe I.D.; 2" meter = 6" to 96" pipe I.D. Flow indication in English std. or Metric units.

FLOW MEASUREMENT
Method: Electromagnetic
Accuracy: ±2% of reading ±0.03 ft/s (±0.009 m/s) zero stability from 0.3 to 20 ft/s (0.09 to 6 m/s) velocity range
Velocity Range: +0.3 to +30 ft/s (+0.09 to +9 m/s)
Has reverse flow indication.

CONDUCTIVITY
Minimum conductivity of 5µS/cm (5µmho/cm)

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

MATERIALS
Sensor: Polyurethane exposed to flow
2" Sensor Mounting: PVC and Stainless Steel exposed to flow. (Stainless Steel Insertion Tube Optional)
Compression Seal: Buna "N" exposed to flow.

OUTPUTS
Analog: 4-20mA 1000 Ohms galvanically isolated and fully programmable.
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, etc.

DUAL ALARMS
Two separate outputs: Isolated and protected transistor switch capable of sinking <250mA @ <35V. Note: Not isolated from frequency output. Fully programmable for high/low flow rates, % of range, empty-pipe, fault conditions, forward/reverse, polarity (normally open/close), analog over-range, pulse over-range, pulse cutoff, etc.

CONVERTER ENCLOSURE
IP67 Die cast aluminum enclosure
5.75" H x 5.75" W x 6.69" D
(14.6 cm H x 14.6 cm W x 17 cm D). Weight: 6.8 lbs. (3.1 kg)

ELECTRICAL CONNECTIONS
Compression gland seals for 0.125" to 0.375" dia. round cable.

ISOLATION
Galvanic separation to 50VDC between analog, pulse/alarm, and earth/ground.

STANDARDS
CE Certified (Converter only)

ENVIRONMENTAL
Pressure/Temperature Limits:
PVC Insertion Tube:
Up to 105°F (41°C) at 150 psi
Stainless Steel Insertion Tube:
Up to 160°F (71°C) at 250 psi
(McCrometer recommends the use of Stainless Steel)
Electronics: Operating and storage temperature: -4° to 140°F (-20°C to +60°C)

KEYPAD AND DISPLAY
Can be used to access and change all set-up parameters using three membrane keys and LCD display.

INSERTION TUBE

1"	Stainless steel tube, 12" length. Will profile 4" pipe I.D.
	Stainless steel tube, 24" length. Will profile 16" pipe I.D.
	Stainless steel tube, 36" length. Will profile 28" pipe I.D.
2"	PVC tube, 18" length. Will profile a 10" pipe I.D.
	PVC tube, 24" length. Will profile a 16" pipe I.D.
	PVC tube, 30" length. Will profile a 22" pipe I.D.
	Opt.: stainless steel tube. Specify length - 65" maximum

- To determine insertion tube length for typical near wall installations, add 18" to pipe I.D. and divide by 8.
- For full profiles, add 18" to the pipe I.D.
- Tube assemblies include rods and mounting hardware

OPTIONS
- DC Power
- Pole mounting kit
- Sun shield
- Sensor insertion tool
- Stainless steel ID tag
- Valves
- Additional sensor cable up to 300' (for longer lengths, consult factory)

ORDERING REQUIREMENTS
At the time of ordering, please be prepared to provide the following information:
- Model and tap size
- Insertion tube length
- Pressure
- Minimum flow
- Maximum flow
- Typical flow
- Fluid
- Pipe I.D.
- Cable length
- Temperature
- Any other chemicals in use
- Indicator and totalizer units

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