McCROMETER

FPI Mag®

Full Profile Insertion Flow Meter

The Only Hot Tap
Full Profile Insertion
Mag Meter

High Performance • Easy to Install

FPI Mag®

Unbeatable Value in Cost of Installation and Ownership

Ideal for Capital or Maintenance Projects, Retrofits and Sites Never Before Metered

MUNICIPAL WATER AND WASTEWATER

The FPI Mag Full Profile Insertion mag meter supports the following water and wastewater treatment applications:

Water

- Distribution
- Effluent
- Pumping Stations
- UV Dosing
- Filter Balancing and Backwash
- Wells & Booster Stations

Wastewater

- Effluent
- Recycle/Reclaim

The FPI Mag is ideal for chilled water in campus style facilities, hospitals, airports, hotels, casinos, etc.

INDUSTRIAL FACILITIES

The FPI Mag is also suitable for a variety of industrial facilities: power plants (including cogeneration), paper mills, chemical & petrochemical plants, metals & mining, and food & beverage.

Applications Include

- Cooling Water
- Fire Water
- Feed Water
- Raw Water
- Inlet to Surge Basin
- Effluent Wastewater

Simple Installation

The insertion design of the FPI Mag allows for easy installation across a wide range of applications and pipe sizes. Hot Tap installation allows you to insert the meter without interrupting service, de-watering lines, cutting pipe or welding flanges.

Lower Costs

Customers save 45%+ on installation and the total cost of ownership. The FPI Mag eliminates the need for heavy equipment and manpower necessary to support installation.

Unmatched Accuracy

The FPI Mag's multi-electrode design and unique operating principle delivers accuracy unmatched by other insertion meters and rivals the performance of full-bore mag meters.

Robust Construction

With no moving parts, there is nothing to wear or break. The sensor body is made from heavy-duty 316 stainless steel for maximum structural integrity. The sensor body is hermetically sealed and protected by NSF certified 3M fusion-bonded epoxy coating.

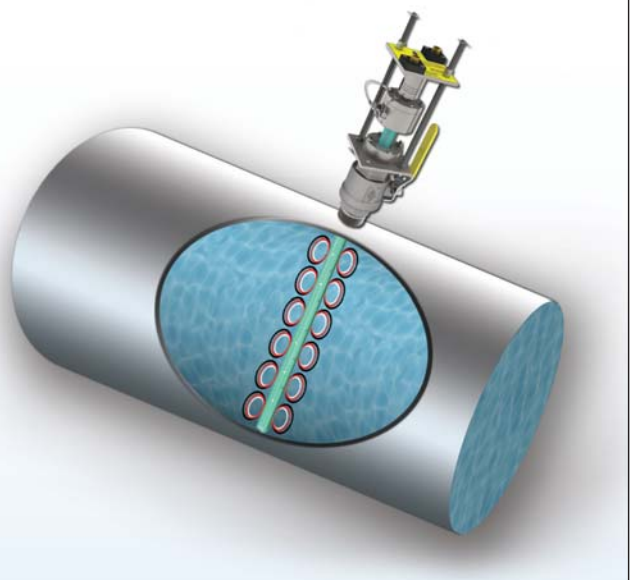
Versatile

The FPI Mag is ideal for capital or maintenance projects, retrofits and sites never before metered. The unique combination of accuracy, ease of installation and total cost savings make the FPI Mag the perfect choice for a wide range of Municipal and Industrial applications.

FPI Mag®

- **Simple Installation**
- **Lower Costs**
- **Unmatched Accuracy**

Principle of Operation



The FPI Mag operates based on Faraday's Law of Electromagnetic Induction: When water (a conductor) moves through a magnetic field, it produces a voltage that is directly proportional to the velocity of the conductor.

How it Works ...

- Electromagnetic coils installed inside the entire length of the sensor produce magnetic fields
- Stainless steel electrode pairs installed on the outside of the entire sensor length collect the induced voltage caused by the flowing water
- The total voltage signal is then transmitted to the converter electronics where it is converted to an average flow velocity
- The converter then multiplies this average flow velocity by the pipe's cross-sectional area to create a volumetric flow rate

Rivals the Performance of a Full-Bore Mag!

Multi-Electrode design delivers accurate full profile measurement with repeatable results

PERFORMANCE SPECIFICATIONS

Range:	0.3 ft/s to 32 ft/s (0.1 m/s to 10 m/s)
Accuracy:	± 0.5% from 1 ft/s to 32 ft/s (0.3 m/s to 10 m/s) ± 1% from 0.3 ft/s to 1 ft/s (0.1 m/s to 0.3 m/s)
Linearity:	0.3% of reading
Pipe Sizes:	4" - 138" (100 mm to 3,500 mm)
Materials:	316 Stainless Steel Sensor Body, Insertion Hardware and Sensor Electrodes NSF Certified 3M Fusion-Bonded Epoxy Coating

CERTIFICATIONS AND APPROVALS

Listed by CSA to 61010-1: Certified by CSA to UL 61010-1 & CSA C22.2 No. 61010-1-04

ISO 9001:2008 certified quality management system

To learn more and see a demonstration, go to:
www.mccrometer.com/fpimag

CONVERTER

The FPI Mag utilizes our pre-programmed Converters*:

- Curve-fitting algorithm to improve accuracy
- Dual 4-20 mA analog outputs*
- RS485 port for easy connection to DCS*
- HART* • Modbus* • Profibus*
- 8 line graphical LCD display
- 3 key touch programming
- Rugged enclosure meets IP67

**See data sheet for complete specs and order information*

The McCrometer Value Difference

For over 55 years, McCrometer has demonstrated an unyielding commitment to integrity which is reflected in our stringent flow meter calibration processes. Each flow meter is individually wet calibrated in one of our two world-class NIST traceable calibration facilities and delivered with a Certificate of Calibration.

NIST
National Institute of Standards and Technology

Our Hemet, California factory boasts a robust Calibration Test Lab that enables production of the most accurate and precise flow instrumentation. The test facility utilizes three gravimetric systems and two volumetric systems providing accuracy and calibration tests of flow meters from 1/2 to 20-inch diameter, with flow rates up to 4,000 gpm.

Our large volume test facility is located in Porterville, California. This facility is one of the world's largest volumetric test facilities owned by a meter manufacturer, and it offers accuracy and calibration tests of flow meters from 3 to 72-inch diameter, with flow rates up to 60,000 gpm.

McCROMETER

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