

STEAM

LIQUID

GAS

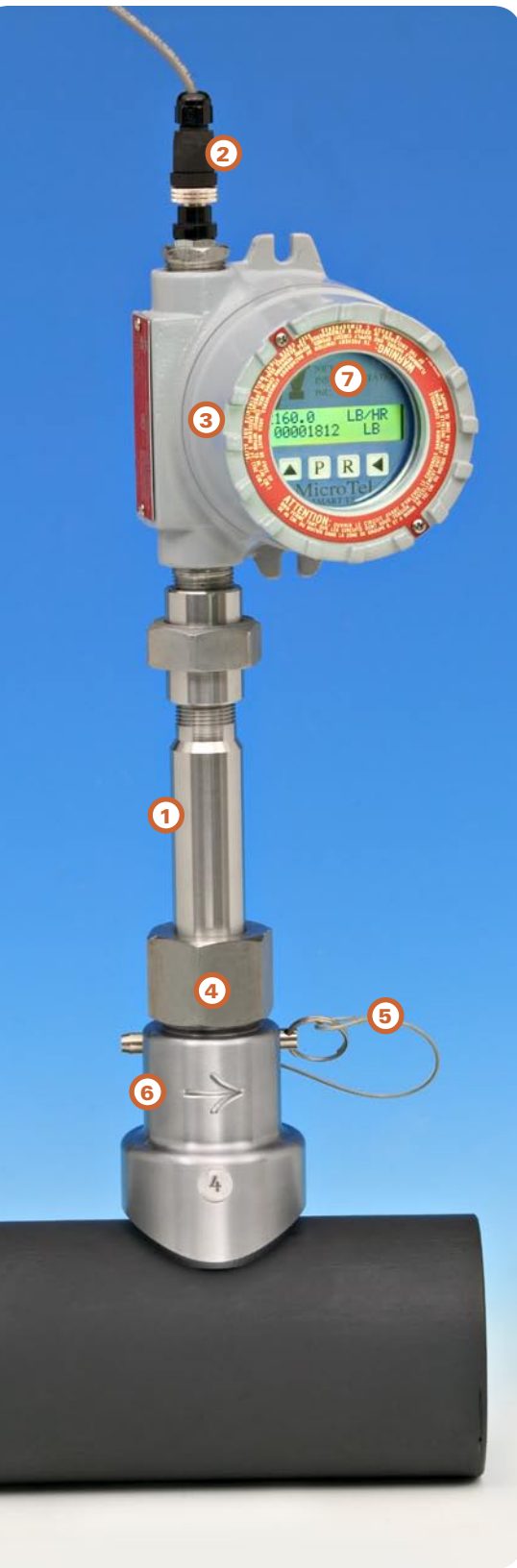


LPIV

*Low Profile  
Insertion Vortex Flow Meter*  
**Accuracy • Reliability • Standardization • Installation**



# Built for Long-term Reliability



**1 Solid Stainless Steel Construction –**

All parts of our meters are machined from solid stainless steel stock.

**2 Weather Proof Multi Pole Connector –**

This allows for field mountable connect & disconnect without opening the enclosure or wiring terminals.

**3 Explosion Proof Enclosure Comes Standard**

**4 Holding Nut –**

Stainless steel nut holds the bar in place after meter is installed into line.

**5 Safety Pin –**

Our safety pin acts as a secondary safety mechanism which keeps the bar from moving and when under pressure, locks into place. The secondary purpose is for precise meter alignment. When the pin is inserted, the sensing element is positioned perfectly upstream, allowing for the highest level of accuracy.

**6 Alignment Mounting Assembly –**

The Mounting Assembly is machined from solid stainless steel stock to precisely fit the outside diameter of the pipe. Each mounting assembly is custom fit for each application. An arrow representing the direction of flow and line size is machined into each assembly to virtually eliminate possible installation errors.

**7 Microtel Smart TX –**

The Microtel Smart TX is a low power two wire 4 -20 ma transmitter with multifunctional capabilities. This device is auto ranging with six digits of rate and eight digits of totalizing, available in all engineering units. All parameters can be modified via our keypad or computer. There is also a serial port to read and download data into memory.



*Remote transmitter available up to 300 feet from flow meter*

# The perfect solution for Steam, Gas & Liquids.

The low profile insertion vortex flow meter is a cross pollination of an inline meter and an insertion meter.

Its purpose is to simplify the installation and eliminate human error when installing a flow meter. The insertion depth is always held to an exact position, and the meter will always point up stream, eliminating calibration variables. The meter has a low profile and can be installed in any orientation, vertically or horizontally around the pipe. Since most problems with insertion meters start at installation, the new LPIV design with our pin and mounting assembly, eliminates these errors from ever happening.



## **Every part is included for a pain free installation.**

The mounting assembly welds directly on the outside of the pipe. The radius of the mounting assembly is machined to fit the diameter of the pipe, from two inch to twenty- four inches in diameter. There is an arrow machined into the mounting assembly showing the direction of flow. Once the mounting assembly is welded to the pipe, the insertion bar can then be inserted into the mounting assembly.

## **The Low Profile Insertion Vortex Meter has been designed for safety.**

The stainless steel pin is inserted into the mounting assembly once the insertion bar is inserted into the pipe. This pin serves two purposes. The first is to align the meter perfectly with the flow, and the other is to prevent the meter from coming out under pressure. The pin can only be installed with zero line pressure. When pressure is applied, the pin is locked in place and cannot be removed.

There is also a large nut which screws down over the insertion bar onto the mounting assembly. This nut also holds the insertion bar from coming out. When pressure is applied to the line, the insertion bar cannot be removed; even if someone removes the holding nut, the pin is still in place.



The insertion bar has absolutely no leak paths to the sensors or the electronics.

## **All mechanical assemblies on the insertion bar are electron beam welded and hydrogen tested for leaks.**

All mechanical assemblies on the insertion bar are electron beam welded and helium leak tested, absolutely no o-rings or compression seals.

For any reason the insertion bar is damaged, it can be replaced without removing anything off the pipe. There are only two sizes of insertion bars, one for two to four inches, and one from five to twenty four inches; therefore, one spare part fits many line sizes.



## **Our Low Profile Insertion Vortex Flow Meter is built for accuracy.**

The insertion bar has two sensors sensing the vortex signal and the pipe noise. The sensors have opposing polarity that is out of phase with each other. When connected together the out of phase vortex signals are magnified and the fluid noise is dramatically reduced." This can allow for an accuracy of  $\pm 1\%$  of ready and  $\pm .25\%$  repeatability.

## **Hooking up power to the meter is easy with our multi pole power connector.**



Our weather proof multi pole connector virtually eliminates wiring errors in the field. Simply plug the connector in and screw it down for a water tight fit. No handling of the electronics or trying to fit wires under terminal blocks is required. Simply plug and play!





## Standardize your flow measurement instrumentation.

The same LPIV can measure  
in line sizes 2 - 24 inches

### Performance Specifications

Process Fluid	Steam, Gas and Liquids
Accuracy	+/- 1% of reading
Repeatability	+/- .25% of reading
Max Operating Pressure	1,000 PSIG
Max Operating Temperature	600 deg F

### Electronic Specifications

Transmitter	Microprocessor Based Smart Transmitter
Power Supply	14 to 36 Volts DC, 110/220 Volts AC
Outputs	4 to 20 ma, Two wire, Pulse, Serial Communication
Display	2 Lines, 16 Alphanumeric Characters Each
Keypad	Setting for Recalibration, Engineering Units, Data Logging, Sample Time, Alarms, Response Time
Data Logging	Stores up to 16,000 Reading with Sampling Times from 1 minute to 256 minutes
Serial Port	Remote Calibration, Remote Reading and Setting of All Parameters
Electronic Enclosure Approvals	UL, CSA, FM, Class I Group B, C, D, Class II Groups E, F, G
Electronic Enclosure	NEMA 4X/IP 66



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