

IP800-SERIES

INSERTION PADDLEWHEEL FLOW SENSOR



APPLICATIONS

Industrial water/wastewater treatment

Cooling water monitoring

Industrial fluid control

Chemical proportioning

Features

- Low-friction, long-life jewel bearings
- One moving part
- Fully field-repairable
- Choice of materials for compatibility with a variety of chemicals
- Fits 1/2" to 8" pipe
- Fixed depth in fitting ensures proper placement in pipe

Contact Your Supplier

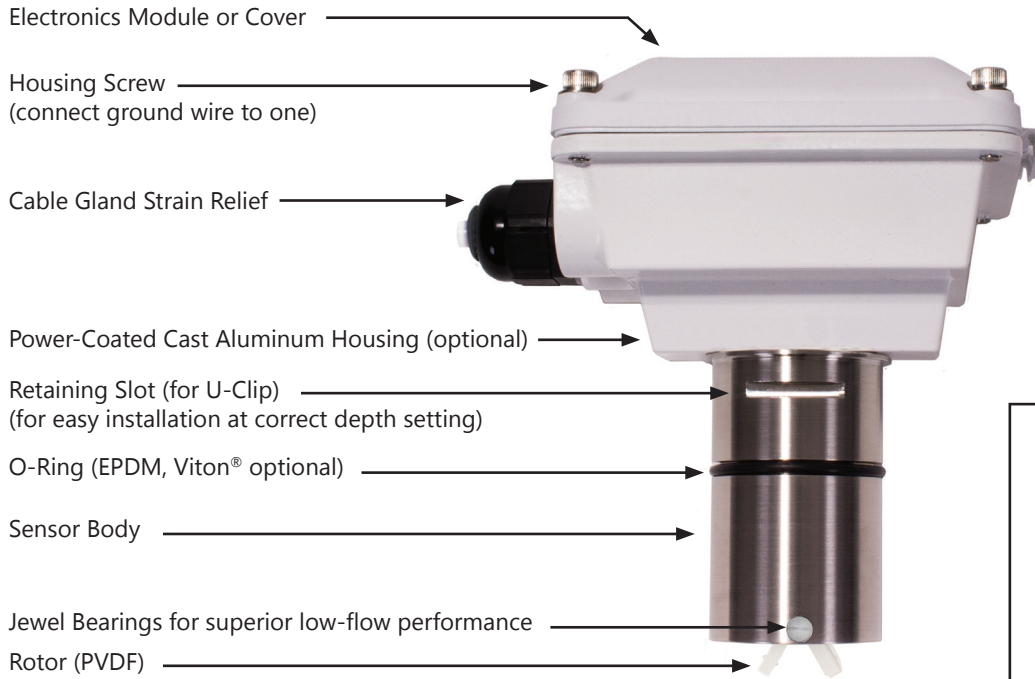
The **IP800-Series** are impeller (or "paddlewheel") insertion meters designed for use with a wide variety of liquids in pipe sizes 1/2" to 8". Sensors are available in brass, 316 stainless steel, PVC, and polypropylene. Bodies are machined from a solid rod for maximum precision. High-quality jewel bearings and nickel-bound tungsten carbide shafts are used for extreme low friction and long life. Low-flow performance is good, although other Seametrics flow meters are recommended where extremely low flows are being measured.

The rotation of the rotor is detected by a non-drag Hall-effect sensor. Output is a current-sinking pulse, which can be sent long distances (up to 2,000 feet) without a transmitter. This signal can be connected directly to PLC's, counters, and computer cards, as well as a variety of Seametrics controls and displays.

Seametrics IP meters are ideal for chemical proportioning applications. If no display is required, a simple divider such as the PD10 provides adjustable pump pacing. For rate and total display, a modular system of electronics can be installed directly on the flow sensor or mounted remotely. The FT430 (externally powered with pulse), FT440 (loop powered), and FT450 (battery powered) all provide digital rate and total displays, as well as a programmable pulse; the FT440 also provides a 4-20 mA analog output. The AO55 blind analog transmitter can be used to convert to a 4-20 mA output. IP meters are also compatible with the DL76 data logger and FT520 batch processor.

The IP800-Series require special fittings that ensure correct depth placement in the pipe. Fittings come in a variety of materials for compatibility with specific applications. Tee fittings are individually wet-calibrated at the factory and marked with the K-factor (pulses per gallon). Saddle fittings must be field-installed on the pipe and do not come wet-calibrated. K-factors for saddles are based on factory-testing.

Features



High Pressure



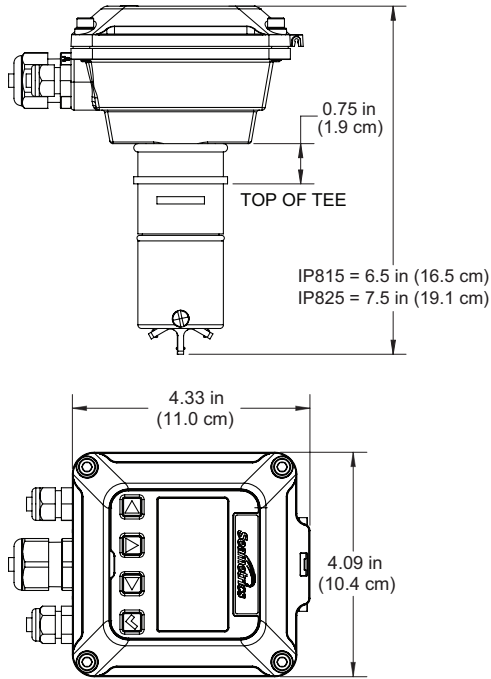
Specifications*

| | | | |
|--|--|---|--|
| Pipe Size | 1/2" to 8" | | |
| Power | Low Power: 6-36 Vdc / < 2 mA | | Micropowered (-04 Option): 3.1-16 Vdc / 60 µA @ 3.6 Vdc |
| Sensor | Low Power: Digital Magneto-resistive | | Micropowered (-04 Option): Giant Magneto-resistance (GMR) |
| Materials | Optional Housing | Powder-coated cast aluminum | |
| | Sensor Body | Brass, 316 Stainless Steel, PVC, or Polypropylene | |
| | O-ring | EPDM (Viton® optional) | |
| | Rotor | PVDF (Kynar®) | |
| | Shaft | Kynar® / Tungsten Carbide (Kynar® / Ceramic or Kynar® / Silicon Carbide optional) | |
| | Bearings | Ruby jewel | |
| Maximum | Brass | 316 Stainless Steel | PVC or Polypropylene (See Pressure vs. Temp. Chart) |
| | Pressure | 200 psi (14 bar) | 200 psi (14 bar) |
| | High Pressure | Not available | 400 psi (28 bar) |
| | Temperature | 200° F (93° C) | 200° F (93° C) |
| Flow Velocity | 0.3 to 30 ft/sec (0.9 to 9.14 m/sec) | | |
| Accuracy | ± 1.5% of full scale | | |
| Output Transistor Maximum Current Sinking | 150mA (low power version only) | | |
| Cable | #22 AWG 3-con, 18' (6m); 2,000' (610m) maximum cable run Note: 50' (15m) maximum for battery powered or micropowered versions. | | |
| Regulatory | C E Mark | | |

*Specifications subject to change • Please consult our website for current data (www.seametrics.com).
 Kynar is a registered trademark of Arkema, Inc., Viton is a registered trademark of DuPont Corporation.

Dimensions

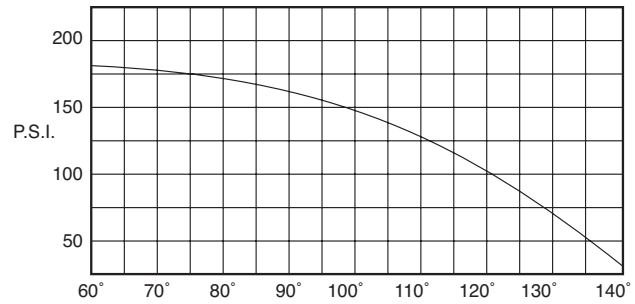
NOTE: Housing Optional



Flow Range

| Nominal Pipe Size | ½" | ¾" | 1" | 1½" | 2" | 3" | 4" | 6" | 8" |
|-------------------|------|------|------|-----|------|------|------|-------|-------|
| Min GPM | 0.28 | 0.5 | 0.8 | 1.9 | 3.1 | 6.9 | 12 | 27 | 46.8 |
| Min LPM | 1.06 | 1.89 | 3.03 | 7.2 | 11.7 | 26.1 | 45 | 102 | 177 |
| Max GPM | 28 | 50 | 80 | 190 | 314 | 691 | 1190 | 2700 | 4680 |
| Max LPM | 106 | 189 | 302 | 719 | 1188 | 2615 | 4504 | 10221 | 17716 |

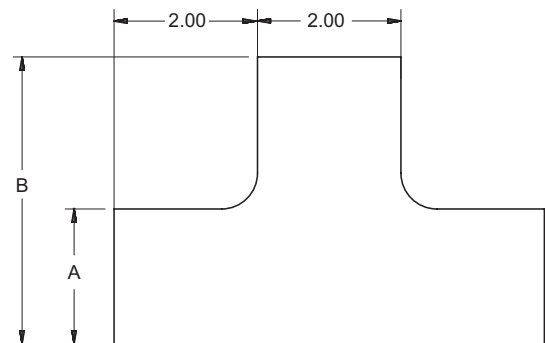
Pressure vs. Temperature (PVC/Polypro)



Available Fittings

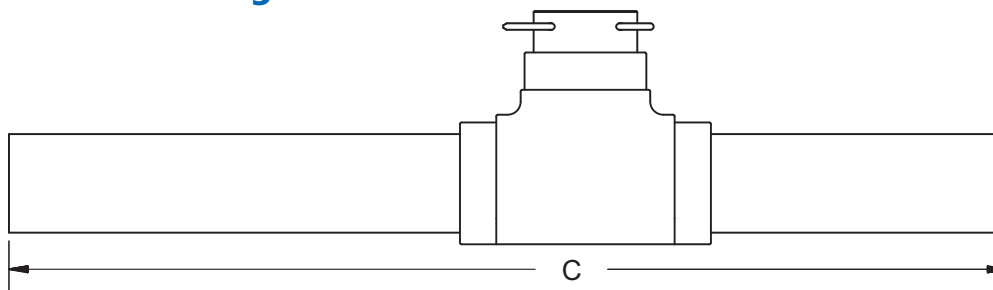
| | Tee | Saddle | Weld | Braze | Sweat Tee |
|------------------------|--------------------|---------|------------------|---------|-----------|
| Bronze | 1/2" - 4" | 3" - 4" | x | 3" - 8" | 1/2" - 4" |
| PVC | 1/2" - 2" | 3" - 8" | x | x | x |
| Stainless Steel | 1/2" - 2" 304SS | x | 3" - 8" 316SS | x | x |
| Carbon Steel | 1/2" - 2" | x | 3" - 8" | x | x |
| Ductile Iron | x | 3" - 8" | x | x | x |

PVC Block Tee Fittings



| SIZE | 1/2" | 3/4" | 1" |
|-------|------|------|------|
| Dim A | 1.5 | 1.90 | 1.88 |
| Dim B | 3.80 | 4.00 | 4.00 |

PVC Tee Fittings



| SIZE | 1-1/2" | 2" |
|-------|--------|------|
| Dim C | 19.2 | 19.9 |

How to Order

| | Description | Size | Sensor Material | Options |
|-------------------------|---|------------------------------------|--|--|
| Sensor Only | Sensor Only. | ½" - 3" = IP810 4" - 8" = IP820 | Brass = B 316 Stainless Steel = S PVC = P Polypro = Y | Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Micropower Pickup = -04 Standard Power, LMI 4-pin Connector = -06 Standard Power, Seametrics Control Connector = -07 *Immersible = -40 Viton® O-Ring = -60 Rotor with Kynar®/Silicon Carbide Shaft = -68 Roytronic® Series A Pump 5-pin Connector = -106 **High Pressure (Stainless Only) = -HP |
| | | | | |
| AO55 Mounted on Sensor | Blind 4-20 mA analog transmitter (AO55) mounted on the sensor. | ½" - 3" = IP812 4" - 8" = IP822 | Brass = B 316 Stainless Steel = S PVC = P Polypro = Y | Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Standard Power, LMI 4-pin Connector = -06 Viton® O-Ring = -60 Rotor with Kynar®/Silicon Carbide Shaft = -68 Roytronic® Series A Pump 5-pin Connector = -106 **High Pressure (Stainless Only) = -HP |
| | | | | |
| FT430 Mounted on Sensor | Rate & total indicator with pulse, externally powered (FT430) mounted on the sensor. | ½" - 3" = IP813 4" - 8" = IP823 | Brass = B 316 Stainless Steel = S PVC = P Polypro = Y | Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Tamper Evident Kit = -32 Viton® O-Ring = -60 Non-resettable Total = -64 Rotor with Kynar®/Silicon Carbide Shaft = -68 Hinged Display Cover = -126 |
| | | | | |
| DL76 Mounted on Sensor | Data logger (DL76) mounted on the sensor. | ½" - 3" = IP816 4" - 8" = IP826 | Brass = B 316 Stainless Steel = S PVC = P Polypro = Y | Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Micropower Pickup = -04 Tamper Evident Kit = -32 Viton® O-Ring = -60 Rotor with Kynar®/Silicon Carbide Shaft = -68 **High Pressure (Stainless Only) = -HP |
| | | | | |
| FT450 Mounted on Sensor | Rate & total indicator with pulse, battery powered (FT450) mounted on the sensor. | ½" - 3" = IP817 4" - 8" = IP827 | Brass = B 316 Stainless Steel = S PVC = P Polypro = Y | Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Tamper Evident Kit = -32 Viton® O-Ring = -60 Non-resettable Total = -64 Rotor with Kynar®/Silicon Carbide Shaft = -68 Hinged Display Cover = -126 |
| | | | | |
| PD10 Mounted on Sensor | Pulse Divider (PD10) mounted on the sensor. | ½" - 3" = IP818 4" - 8" = IP828 | Brass = B 316 Stainless Steel = S PVC = P Polypro = Y | Rotor with Ceramic Shaft, PVDF, Kynar® = -01 LMI Pump Connector = -06 10 Ft. Cable for LMI Connector = -37 Viton® O-Ring = -60 Rotor with Kynar®/Silicon Carbide Shaft = -68 Roytronic® Series A Pump 5-pin Connector = -106 **High Pressure (Stainless Only) = -HP |
| | | | | |
| FT440 Mounted on Sensor | Rate & total indicator with pulse & 4-20 mA output, loop powered (FT440) mounted on the sensor. | ½" - 3" = IP819 4" - 8" = IP829 | Brass = B 316 Stainless Steel = S PVC = P Polypro = Y | Rotor with Ceramic Shaft, PVDF, Kynar® = -01 Tamper Evident Kit = -32 Viton® O-Ring = -60 Non-resettable Total = -64 Rotor with Kynar®/Silicon Carbide Shaft = -68 Hinged Display Cover = -126 |
| | | | | |

* Immersible to maximum of 3 ft (1m), up to 2 weeks

**Requires appropriate fitting.

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