The Series EFS2 Insertion Electromagnetic Flow Sensor is designed for pipe sizes from 1 to 12˝ and comes in three different materials (stainless steel, brass and PVC). There are a variety of custom fittings to choose from to ensure accurate fitting in the pipe. The Series EFS2 is useful for any applications where moving parts would be a problem, such as dirty liquids. It can handle applications where there are rapid changes in viscosity and flow. Other applications include small pipes and chemical metering pumps.

**PRINCIPLE OF OPERATION**

The EFS2 is a liquid flow meter that uses the conductivity of fluids to measure flow rate. Liquid flow through its magnetic field produces a voltage that is measured and translated into an output signal. It has a pulse frequency output which can be used with the Series RTI to indicate flow rate and total, as well as the Series BAT signal converter which provides an analog signal.

**APPLICATIONS**

- Industrial Process
- Chemical Metering Pumps
- Fertigation

**ACCESSORIES**

- Series BAT, Blind Analog Transmitter, converts pulse output to 4 to 20 mA analog output. Unit is loop powered, fits on the enclosure of the meter, and is fields spannable.
- Series RTI, Rate Total Indicator, converts pulse output to 4 to 20 mA analog output with local flow rate and totalization display. Unit is loop powered, fits on the enclosure of the meter, and provides a high/low flow alarm.
- Series PWD, Pulse Divider, for use with pacing electronic metering pumps. Unit divides the input frequency to any number from 1 to 9999 with the use of rotary switches to suit a number of metering pump inputs.

**SPECIFICATIONS**

- **Service:** Compatible clean or dirty non-coating, conductive liquids.
- **Range:** 0.28 to 20 ft/s (0.08 to 6.09 m/s).
- **Wetted Materials:**
  - Sensor: 316 SS, brass or PVC;
  - Electrodes: Hastelloy®, metal;
  - Electrode Cap: PVDF;
  - O-ring: EPDM (fluoroelastomer optional).
- **Accuracy:** ±1% FS.
- **Temperature Limits:**
  - Process: Brass/SS: 32 to 200°F (0 to 93°C); PVC: 32 to 130°F (0 to 55°C);
  - Ambient: 0 to 160°F (-17 to 72°C).
- **Pressure Limits:**
  - Brass/SS: 200 psi (13.8 bar);
  - PVC: 150 psi (10 bar).
- **Process Connection:** See Series EFF.
- **Output:** Current sinking, square wave pulse, opto-isolated, 550 Hz @ 20 ft/s.
- **Power Requirements:** 12 to 25 VDC @ 250 mA; (12 to 25 VDC @ 40 mA (max. 250 mA) - LOP option).
- **Electrical Connection:** Terminal block.
- **Conductivity:** 20 microSiemens/cm.
- **Enclosure Material:** Housing: Die-cast powder-coated aluminum.
- **Enclosure Rating:** NEMA 4X (IP66).
- **Weight:** 3 lb (1361 g).

**Example**

<table>
<thead>
<tr>
<th>Example</th>
<th>EFS2</th>
<th>1P</th>
<th>RFO</th>
<th>EFS2-1P-RFO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Series EFS2</strong></td>
<td></td>
<td></td>
<td></td>
<td>Insertion Electromagnetic Flow Sensor</td>
</tr>
<tr>
<td><strong>Size/Material</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1P</td>
<td>1 to 3˝ Pipe, PVC</td>
<td>RFO</td>
<td>Reverse Flow Output</td>
<td></td>
</tr>
<tr>
<td>1B</td>
<td>1 to 3˝ Pipe, Brass</td>
<td>IMM</td>
<td>Immersible (<em>Urethane Potted Electrical Connection</em>)</td>
<td></td>
</tr>
<tr>
<td>1S</td>
<td>1 to 3˝ Pipe, 316 SS</td>
<td>FOR</td>
<td>Fluoroelastomer O-ring</td>
<td></td>
</tr>
<tr>
<td>2P</td>
<td>4 to 10˝ Pipe, PVC</td>
<td>LOP</td>
<td>Low Power (12 to 25 VDC @ 40 mA) (max 250 mA)</td>
<td></td>
</tr>
<tr>
<td>2S</td>
<td>4 to 10˝ Pipe, Brass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3P</td>
<td>12˝ Pipe, PVC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3B</td>
<td>12˝ Pipe, Brass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3S</td>
<td>12˝ Pipe, 316 SS</td>
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</tr>
</tbody>
</table>

**Note:** Need to purchase with Series EFF fittings for proper installation.

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