The Series PDWS Insertion Paddlewheel Flow Sensor is designed for pipe size ranges from 1/2 to 8” with available materials of brass, stainless steel, PVC, and polypropylene. The bearings are made of high-quality ruby jewel to reduce the coefficient of friction and maintain high accuracy. The Series PDWS has a wide variety of custom tee, saddle, or welded fittings that come in bronze, PVC, and stainless steel. The Series PDWS is ideal for chemical proportioning applications or any applications with rapidly changing fluid conductivity.

**PRINCIPLE OF OPERATION**

Uses the rotation of an impeller to measure flow. Liquid flow pushes the rotor and the rotation is detected by a Hall-effect sensor. The output is a current sinking pulse signal that can be connected to the Series RTI to display flow rate and total, or to the Series BAT for a 4 to 20 mA analog signal.

**APPLICATIONS**

- Industrial Water/Wastewater Treatment
- Cooling Water Monitoring
- Industrial Fluid Control
- Chemical Proportioning

**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, can fit 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 liquids.

**Range:** 0.3 to 30 ft/s (0.09 to 9.14 m/s).

**Wetted Materials:**
- Sensor: Brass, 316 SS, PVC, or Polypropylene;
- Rotor: PVDF;
- Shaft: Nickel-bonded tungsten carbide (ceramic optional);
- Bearings: Ruby jewel;
- O-Ring: EPDM (fluoroelastomer optional).

**Accuracy:** ±1.5% FS.

**Temperature Limits:** Brass, 316 SS: 200°F (93°C); PVC, Polypropylene: 130°F (55°C).

**Pressure Limits:** Brass: 200 psi (14 bar); 316 SS: 250 psi (17 bar); PVC, Polypropylene: 175 psi (12 bar) @ 75°F (24°C); High Pressure Option: 400 psi (28 bar) (SS only).

**Process Connection:** See Series PWF.

**Output:** Current sinking, square wave pulse, opto-isolated.

**Power Requirements:** 6 to 24 VDC, 2 mA (max. 20 mA).

**Electrical Connection:** #22 AWG, 3 conductor, 18’ (5.5 m) cable (max. 2000’ run).

**Enclosure Rating:** NEMA 4X (IP66).

**Weight:** 2 lb (907 g).

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**Example Series PDWS**

<table>
<thead>
<tr>
<th>Example</th>
<th>PDWS</th>
<th>1B</th>
<th>CRS</th>
<th>PDWS-1B-CRS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Series</strong></td>
<td><strong>PDWS</strong></td>
<td><strong>1B</strong></td>
<td><strong>CRS</strong></td>
<td><strong>PDWS-1B-CRS</strong></td>
</tr>
<tr>
<td><strong>Size/Material</strong></td>
<td><strong>1B</strong></td>
<td><strong>1S</strong></td>
<td><strong>1P</strong></td>
<td><strong>1Y</strong></td>
</tr>
<tr>
<td>1B</td>
<td>1-1/2 to 3”, Brass</td>
<td>1-1/2 to 3”, Brass</td>
<td>1-1/2 to 3”, Brass</td>
<td>1-1/2 to 3”, Brass</td>
</tr>
<tr>
<td>1S</td>
<td>1-1/2 to 3”, 316 SS</td>
<td>1-1/2 to 3”, 316 SS</td>
<td>1-1/2 to 3”, 316 SS</td>
<td>1-1/2 to 3”, 316 SS</td>
</tr>
<tr>
<td>1P</td>
<td>1-1/2 to 3”, PVC</td>
<td>1-1/2 to 3”, PVC</td>
<td>1-1/2 to 3”, PVC</td>
<td>1-1/2 to 3”, PVC</td>
</tr>
<tr>
<td>1Y</td>
<td>1-1/2 to 3”, Polypropylene</td>
<td>1-1/2 to 3”, Polypropylene</td>
<td>1-1/2 to 3”, Polypropylene</td>
<td>1-1/2 to 3”, Polypropylene</td>
</tr>
<tr>
<td>2B</td>
<td>Ceramic Shaft</td>
<td>Ceramic Shaft</td>
<td>Ceramic Shaft</td>
<td>Ceramic Shaft</td>
</tr>
<tr>
<td>2P</td>
<td>Fluoroelastomer O-ring</td>
<td>Fluoroelastomer O-ring</td>
<td>Fluoroelastomer O-ring</td>
<td>Fluoroelastomer O-ring</td>
</tr>
<tr>
<td>2Y</td>
<td>High Pressure Options (Use with SS only)</td>
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<td>High Pressure Options (Use with SS only)</td>
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</tr>
</tbody>
</table>

**Note:** Need to purchase with Series PWF fitting for proper installation.

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