**Description:**
The Vantage clamp-on style sensors are designed to operate in conjunction with Speedrail mounting rails and chains. Two configurations are available.

**V30S:** Pipe sizes 1 inch to 3 inch.
**V30L:** Pipe sizes 4 inch and larger.

Material and specifications are the same for both styles of sensors. The only difference between the V30L and the V30S sensors are the physical size. (See dimensions in the picture to the right)

**Material of Construction:**
- **Housing:** Black Anodized Aluminum.
- **Shoe:** Ultem®
- **Connector:** Anodized Aluminum 1/2" NPT.
- **Sensor Cable:** Triax with PVC coating (Belden 9222) 50 ft. standard, 1000 ft. maximum.

**Temperature:**
- **Standard:** -30º F to 150º F
- **High Temp. (Optional):** -30º F to 300º F

**Operating Frequency:**
1280 Khz or 640 Khz

**Speedrail Mounting**
The Speedrail mounting for the Vantage sensors was specifically designed to make installation of the sensors and rail system easy and simple for the installer. No extra tools are required for installation other than connecting the conduit to the sensor.

The V-Shot holder will have one rail with two mounting chains. The Z-Shot holders will have two rails and two chains per rail. The Z-Shot holders will also be supplied with a Z-Shot Locator to assist in sensor orientation of upstream vs. downstream sensor placement.

**Materials and Construction:**
- **Rating:** Anodized Aluminum
- **Hardware:** 304 Stainless Steel
- **Mounting Chain:** 304 Stainless Steel
Vantage Series 4000
Clamp-On Sensor Installation

There are two styles of clamp-on sensors. The V-Shot and the Z-Shot sensor rails will accommodate both style of sensor. It is important to note, that the meter will need to be programmed for the specific sensor style utilized.

Where do I place my sensors in relation to upstream and downstream conditions?

Ultrasonic transit-time flow meter accuracies are based upon well developed velocity profiles. Upstream disturbances, such as pumps or tees and elbows, will affect the velocity profile. Below are recommended straight runs to assure meter accuracies.

<table>
<thead>
<tr>
<th>Device</th>
<th>Upstream from meter (in pipe diameters)</th>
<th>Downstream from meter (in pipe diameters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tees &amp; elbows</td>
<td>10-15</td>
<td>2-3</td>
</tr>
<tr>
<td>Reducers</td>
<td>10</td>
<td>2-3</td>
</tr>
<tr>
<td>Increasers</td>
<td>20</td>
<td>2-3</td>
</tr>
<tr>
<td>Valves (fully opened)</td>
<td>10-15</td>
<td>2-3</td>
</tr>
<tr>
<td>Valves (modulating)</td>
<td>20-25</td>
<td>2-3</td>
</tr>
<tr>
<td>Pumps</td>
<td>20-25</td>
<td>2-3</td>
</tr>
</tbody>
</table>

The sensor/sensor holders should always be placed on the sides of the pipe as shown on the left and never on the top or the bottom of the pipe.