Thank you for purchasing a Raven Environmental Products process control instrument.

**DESCRIPTION**

The Raven E-10200 Sludge Interface Detector (SID) is a rugged portable field instrument specifically designed to detect sludge density and measure sludge blanket elevation in sedimentation tanks and clarifiers. Precision electronics and the latest IRED technology enable accurate and repeatable measurements. Operator features like single-handed operation, belt clip and onboard cable stowage make it easy to use.

**OUT OF THE BOX**

<table>
<thead>
<tr>
<th>Density lightbar meter</th>
<th>Battery cradle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horn声者孔</td>
<td>Faceplate</td>
</tr>
<tr>
<td>Horn on/off switch</td>
<td>Wall mount tab</td>
</tr>
<tr>
<td>Sensitivity control knob</td>
<td>Signal cable</td>
</tr>
<tr>
<td>Battery low indicator</td>
<td>Probe</td>
</tr>
<tr>
<td>SID power switch</td>
<td>Sensor eye</td>
</tr>
<tr>
<td>Handle</td>
<td></td>
</tr>
<tr>
<td>Cable storage rack</td>
<td></td>
</tr>
</tbody>
</table>

**SETUP – battery installation**

1. Switch power-off by depressing “O” on the POWER switch.
2. Remove 4 screws on faceplate, pull away faceplate to expose case chamber.
3. Open yellow Velcro strap and remove battery cradle from case.
4. Install the 6-AA alkaline batteries (provided) in the battery cradle.
5. Install battery cradle back in the case and fasten with Velcro strap.
6. Secure faceplate to the case with the 4 screws.

**TOOL FAMILIARITY**

Before using the SID in water, take a minute to observe how it works.

- Power-on/off switch and a horn-on/off switch (power-on with the “I” side down)
- A single lightbar segment lights up when the SID is powered-on
- Lightbar segments increase with horn as sludge density increases
- Horn may be muted by rotating the sounder vent or can be silenced by the switch
- The probe sensor emits an IRED beam that is invisible and harmless
- Low battery lamp will flash when battery replacement is due

Quick check
1. Switch-on the POWER and HORN.
2. Place your finger over one of the sensor eyes in the probe gap. All lightbars illuminate and the horn sounds off. The horn can be switched-off without affecting the operation of the unit.
**SENSITIVITY KNOB ADJUSTMENTS**

The Sensitivity Knob is used to compensate for varying types of sludge density.

<table>
<thead>
<tr>
<th>Knob Setting</th>
<th>Probe Attitude</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ignoring the smallest solids</td>
<td>Low</td>
</tr>
<tr>
<td>5</td>
<td>Detecting all solids</td>
<td>High</td>
</tr>
</tbody>
</table>

Note: Sensitivity range set at factory. Range modification instructions available upon request.

**FINE TUNING**

- Now that you've established the baseline sensitivity for this tank, you can fine-tune the SID by increasing the sensitivity above the baseline.
- At the baseline sensitivity setting determined in the previous step, the probe is exhibiting an "all or nothing" reading. At sensitivities higher than your baseline, you can detect the ragged edge on top of the sludge blanket.
- By lowering and raising the SID probe in and out of the sludge blanket interface at various sensitivity settings above your baseline, you will get a feel for the SID’s “personality” and how it reacts to the particular influents at your plant.

**MAINTENANCE**

- Replace all 6 batteries as a group with new AA alkaline batteries of the same type and brand
- Switch SID power switch-off when not in use to conserve batteries
- Store SID for long periods with the batteries removed
- Store SID in cool dry place and out of direct sunlight
- Clean probe sensor eyes with mild detergent

Replacement Parts
S-10203-20 20-foot Cable Assembly with Sludge Sensor Probe
S-10203-30 30-foot Cable Assembly with Sludge Sensor Probe

1 year limited warranty.

Other Raven Environmental Products process control instruments:

F-10300    Bench top Centrifuge (includes six 19mm Centrifuge Tubes)
B-10101-19 19 mm Centrifuge Tubes (conical bottom with percentage markings)
B-10101-17 17 mm Centrifuge Tubes (conical bottom with percentage markings)
C-10102    Settleometer Kit (Measures sludge settling characteristics)