**TS-VPS Installation Guide**

This install guide provides necessary installation instructions for the mounting of the INCON Vapor Pressure Sensor inside a dispenser, inside a dispenser sump, or on the top of a tank riser. Information regarding the cabling and the connection to the Tank Sentinel Console is found in the *Tank Sentinel Installation Guide*, (p/n 000-2150). All documentation relating to operability, maintenance, and testing of the Vapor Pressure Sensor is found in the *Vapor Recovery Monitor Operator's Guide* (p/n 000-2058).

**Important:** See the Vapor Recovery Install/Operators Manual or Tank Sentinel Installation Manual for Important Safety Messages.

**Required Tools**
- Pipe joint tape (Oil and gasoline compatible PTFE Tape)
- Adjustable Wrench
- Small screwdriver (terminal block connection)
- Slip joint pliers (crimping splice connector)

**Related Documents**
- 000-2058 : Vapor Recovery Monitor Operators Guide
- 000-2150 : Tank Sentinel Installation Guide - TS-5XXX Series
- 000-2142 : Tank Sentinel Programming Guide - TS-5XXX Series
- 000-2151 : Tank Sentinel Operator’s Guide - TS-5XXX Series

**Preparation**

1. Perform a site inspection. Determine how the Vapor Pressure Sensor will be installed. The preferred installation method for this product is to come off the horizontal 1” port of the vapor shear valve. If this is not possible, then a piping tee may need to be installed below the Vapor Flow Meter.
2. If the Vapor Recovery equipment is going to be installed on an existing service station, verify that there is a run of intrinsically safe conduit going back to the console. Vapor Flow Meter wiring can share the same space with other intrinsically safe cables, but cannot be run with non-intrinsically safe cables.
3. Make sure that all contractor-supplied piping materials are compatible with California fuels and meet all local codes.

**Parts List and Materials Needed**

**Table 1 - Off Shear Valve**

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Supplied By</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor Pressure Sensor, TS-VPS</td>
<td>INCON</td>
<td>1</td>
</tr>
<tr>
<td>Sensor Installation Kit, 020-1509</td>
<td>INCON</td>
<td>1</td>
</tr>
<tr>
<td>Weatherproof Junction Box</td>
<td>Contractor</td>
<td>1</td>
</tr>
<tr>
<td>1” to 0.5” reducing bushing</td>
<td>Contractor</td>
<td>1</td>
</tr>
</tbody>
</table>

**Table 2 - Below Shear Valve**

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Supplied By</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor Pressure Sensor, TS-VPS</td>
<td>INCON</td>
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<td>Weatherproof Junction Box</td>
<td>Contractor</td>
<td>1</td>
</tr>
<tr>
<td>1” to 0.5” reducing bushing</td>
<td>Contractor</td>
<td>1</td>
</tr>
<tr>
<td>1.5” Piping Tee</td>
<td>Contractor</td>
<td>1</td>
</tr>
</tbody>
</table>

**Installation Steps**

**Installation Steps Off the Vapor Shear Valve**

1. Lock and tag out power to the dispenser and the console before attempting any work on the dispenser.
2. Refer to Figure 1 for reference.
3. Begin by removing the 1” plug from the vapor shear valve and installing a 1” to ½” reducing bushing.
4. If there is not already a watertight junction box for the intrinsically safe cables, then install one as described earlier in Tools Required.
5. Pull the black Vapor Pressure Sensor cable through the supplied cable grip and into the junction box. Using the supplied crimp connectors, splice the flow meter cable to the field cable. The color codes on the black Vapor Pressure Sensor are: Black = + (plus) and White = - (minus).

**Installation Steps Below the Vapor Shear Valve**

1. Lock and tag out power to the dispenser and the console before attempting any work on the dispenser.
2. Refer to Figure 1 for reference.
3. Install a 1.5” piping tee below the Vapor Shear Valve.
4. Install an appropriate bushing sized to get to the supplied ½” piping nipple.
5. If there is not already a watertight junction box for the intrinsically safe cables, then install one as described earlier in Tools Required.
6. Pull the black Vapor Pressure Sensor cable through the supplied cable grip and into the junction box. Using the supplied crimp connectors, splice the flow meter cable to the field cable. The color codes on the black Vapor Pressure Sensor are: Black = + (plus) and White = - (minus).
Figure 1

- Vapor Shear Valve
- 1" NPT Pipe Connection
- Weatherproof Junction Box
- Sensor Ball Valve
- 1/2" x 3" Pipe Nipple
- Optional 1" to 1/2" Reducing Bushing
- Test Port Plug
- 1/2" NPT
- Cord Grip
- Intrinsically Safe Conduit to VRM Console
- Install to Shear Valve
- Optionally Install to InLine Tee
- Vapor Return Line with Inline Tee

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